

SOUTHEASTERN BIOLOGY



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ASB 73RD ANNUAL MEETING

ASB

APRIL 4-7, 2012

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The University of Georgia, Athens

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PURPOSE

The purpose of this association shall be to promote the advancement of biology as a science by encouraging research, the imparting of knowledge, the application of knowledge to the solution of biological problems, and the preservation of biological resources. The ASB has representation in Section G Committee of the AAAS. Varying types of membership are available to individuals and institutions. See inside back cover.

TIME AND PLACE OF FUTURE MEETINGS

2012 April 4-7: Hosted by the University of Georgia, Athens, Georgia. Meeting site is the Georgia Center on campus.
2013 April 10-13: Hosted by Marshall University, Huntington, WV. Meeting site is the Charleston Convention Center, Charleston, WV.
2014 April: Spartanburg, SC (TBA); 2015 April: Alabama (TBA); 2016 April: TBA; 2017 April: Spartanburg, SC (TBA).

THE VIEW FROM HERE

A Message from the President Donald H. Roush

We are just a few weeks away from our 75th Anniversary meeting in Athens, Georgia. Our beloved archivist, John Herr has been working with a committee chaired by Zack Murrell preparing ways to promote this special occasion. There will be special signage located around the venues where small "Points of History" will be presented. John will also share a brief PowerPoint presentation at the Friday evening ceremony with pictures and other points of historical information. The plan is also to have available a more comprehensive document covering the history of ASB. I would like to thank John and all of the others who have worked with him and Zack in putting this information together for all our members and guests to enjoy.



I hope everyone has made plans to attend this meeting. It is shaping up to be a good meeting with several symposia, workshops and special luncheon meetings hosted by ASB committees seeking your input. These committees are working to provide the members with quality programs and workshops designed to educate and bring useful material to us at future meetings. It is important for members to speak out identifying programs and services that will meet their needs. This is a major function of ASB—that is to disseminate scientific and educational information across the southeast region.

Another function of ASB as I see it is to provide a venue for the training, development and encouragement of our future science professionals. In the nearly twenty five years I have been attending ASB, I have seen students at the meeting who were making their first professional presentation. Originally these presentations were paper presentations on research work they were conducting to finish a MS degree. Repeat presenters were students completing their doctoral work. Now they are just as likely to be presenting a poster as to presenting a paper. Many more are now undergraduate students conducting research as a component of their undergraduate degree programs. I find this to be a very healthy sign of the importance of ASB to our region and to the scientific community as a whole. ASB needs to embrace this role and encourage in every way possible students to attend and present their findings. I am not forgetting the senior academy during this process as well. I think it is essential for these young developing scientists to be mentored by senior faculty. I hear the argument that ASB does not get any respect when it comes to attending and making presentations by the institutions or their administrations. My response is if more faculty come to ASB and make presentations, the administrations of the universities and colleges in the region will have no choice but to recognize our

meetings. The more we as an organization sit back ringing our hands wailing and crying, the less respect we will receive. Get up and get going to make a better ASB. Encourage your colleagues to join us and to get involved. Bring your junior faculty and graduate and undergraduate students as well. ASB has something for every group.

I would also like to encourage diversity in ASB. Our title does not say plant biologists of the southeast or ecologists of the southeast or "insert disciple here" of southeast, it states Association of Southeastern BIOLOGISTS!!! To me that is pretty inclusive. Look at the list of affiliates and see some of this diversity. The problem is that with several of these groups, we are seeing fewer and fewer attendees. We the current members need to reach out and bring these friends and colleagues back. Let's make ASB an organization that all of the biologists in the region want to participate and be a part of. One way to assist in this process is to support the new journal soon to be available that will publish research not addressed in SENA. Volunteer to be an editor or to serve as a reviewer. Get a faculty member from your department to volunteer and or to submit research to be published.

ASB cannot forget the non-academic scientists located in our region. The scientists working in government and state agencies are every bit as important as the academic scientists. The scientists working in industry and those working independently in consulting firms and businesses, all are important. ASB needs these members and hopefully they need our members to network with and to provide services within our region. Their presence and participation at our meetings illustrates to future scientists a role that might not have occurred to them as a career choice.

As another challenge to improving the image and standing of ASB, we need VOLUNTEERS!! Get involved. ASB has numerous committees just waiting for your input and your ideas. Members complain that "I see the same old faces etc. etc. etc." It's simple. You see the same old faces because they volunteer and do the work. Want to see new faces; it's easy, make one yours. Many of these old faces are getting tired and would gladly welcome you to the committee. Your ideas and enthusiasm might be just what is needed to attract new members. Renewed excitement and participation will breed more involvement and better attendance at our meetings. ASB needs more WE and less just me. Working together as a team is the solution.

ASB is celebrating 75 years as an organization. It has survived by the action of its members. It has survived by meeting the needs of its members. It has been the premier organization in the southeast by training and developing scientists and spearheading research that has defined our understanding of this region. It has survived because of WE (the team) and not just me. As ASB marches forward, let's all make an effort to make ASB more about what WE (the team) can achieve and less about just me. WE owe it to those members and leaders of the previous 75 years. Every organization experiences down periods as well as up periods. With several converging factors colliding, we have been in a slump. The challenge to us the current members is to put the recent past behind us and to turn our vision to the future. We do not need to forget our mistakes; rather, we need to learn from them so that WE (the team) do not make them again. WE

need to forget the “BLAME game” and move forward! ASB will survive because WE the collective members are more important than the just me members.

As always it is important to recognize our Affiliate Societies, Patron Members and Vendors that support ASB. The members of these groups are important to ASB. A very big THANK YOU to each of the these groups for supporting ASB: American Society of Ichthyologists and Herpetologists – Southeastern Division; Botanical Society of America – Southeastern Division; Ecological Society of America – Southeastern Chapter; Society of Herbarium Curators; Society of Wetlands Scientists – South Atlantic Chapter; Southeastern Society of Parasitologists; Southern Appalachian Botanical Society; TriBeta Southeastern District I and II; Associated Microscope Inc.; Tim Atkinson; Breedlove, Dennis and Associates Inc.; Carolina Biological Supply Company; Martin Microscope Company; Brooks/Cole Cengage Learning; Marilyn Pendley; and Southeastern Naturalist (Humboldt Institute). We look forward to your continued participation and support not only at this, the 75th Anniversary meeting, but all our meetings in the future.

Humbly and sincerely,

Donald H. Roush, President

ASB CANDIDATES FOR OFFICE—2012

The Nominating Committee composed of Patricia B. Cox (Chair), W. Michael Dennis, and Patricia Parr has selected the following slate of nominees for the ASB offices to be filled in 2012. Voting will take place at the annual business meeting which begins on Friday morning, April 6, 2012. Additional nominations will be accepted from the floor before voting is conducted. Please plan to attend and vote. Elections can sometimes be close. Therefore, your vote could make a difference on who gets elected to office.

| | | |
|----------------------------|---------------------------|--|
| <i>President-Elect</i> | Zach Murrell | Appalachian State University Boone, North Carolina |
| | David Whetstone | Jacksonville State University Jacksonville, Alabama |
| <i>Vice President</i> | Rebecca A. Cook | University of Memphis Jackson, Tennessee |
| | Joey Shaw | University of Tennessee Chattanooga, Tennessee |
| <i>Executive Committee</i> | | |
| <i>Members-at-Large</i> | | |
| | Judy Awong-Taylor | Georgia Gwinnet College Lawrenceville, Georgia |
| | Anisha Campbell | Bowie State University Bowie, Maryland |
| | William E. Ensign | Kennesaw State University Kennesaw, Georgia |
| | Danny J. Gustafson | The Citadel Charleston, South Carolina |



Dr. Zack Murrell



Dr. David Whetstone



Dr. Rebecca Cook



Dr. Joey Shaw



Dr. Judy Awong-Taylor



Dr. Anisha Campbell



Dr. William E. Ensign



Dr. Danny J. Gustafson

PRESIDENT-ELECT

Zack Murrell – Dr. Murrell is an Associate Professor in the Department of Biology at Appalachian State University, a plant systematist and a herbarium curator. Over the past 12 years Dr. Murrell has been helping organize the herbaria of the Southeast to provide support and develop collaborations among the 225 collections in the region. In 1999 he organized a symposium entitled “Southeastern Endemics: Speciation and Biogeography.” This was followed by a second symposium in 2001 entitled “The Future of Plant Collections in the Southeast” and a third symposium in 2003 entitled “The Crisis in Field Botany: Loss of People and Knowledge.” During this same time period he worked with other curators in the region to the organize The Society of Herbarium Curators, a service organization that now has a national membership. He has served as President of the Southern Appalachian Botanical Society (2002-2004), Executive Council as Member-at-Large for ASB (2002-2005), President of the Society of Herbarium Curators (2006-2008) and currently, Vice President of ASB (2011-present). In 2005 Dr. Murrell organized a group of curators in the Southeast to submit a proposal to the National Science Foundation for a five-year project to develop a “virtual community” of curators and affiliated scientists and teachers. This project was funded as a Research Coordination Network (RCN) called SERNEC: SouthEast Regional Network of Expertise and Collections. Over the past five years this group has developed collaborative relationships to build a federated database of specimen information and Zack is currently working with this group to help develop a “bioinformatics toolkit” for the community. He has worked to integrate the Southeastern herbarium effort with national activities and currently serves as co-Chair of the US Virtual Herbarium effort. He has worked to develop the teaching and outreach aspects of SERNEC and to provide workshops and training sessions for this curatorial community. Recent efforts have involved expanding this bioinformatics project to an “all-taxa” effort in the Southeast. As part of this effort, he has helped organize workshops to extend the bioinformatics effort to various taxonomic groups (algae, mollusks). He organized a symposium in 2009 entitled “Biodiversity Informatics: Progress and Potential in the Southeastern USA” and currently serves as chair of the ASB Bioinformatics Committee. In addition to these efforts, Dr. Murrell is the author of a plant systematics textbook entitled “Vascular Plant Taxonomy.” His research is focused on species and speciation and has mentored 16 Master’s students in systematic, floristic and comparative biogeography projects.

David Whetstone – Dr. Whetstone has been a member of the Association of Southeastern Biologists for over 38 years and was the first life member of ASB. He received his MA degree in Biology in 1973 from Jacksonville State University, and took his Ph. D. in Botany from the University of North Carolina in Chapel Hill in 1981. He was a professor in the Department of Biology at Jacksonville State University for over 30 years where he actively supported undergraduate and graduate student research, taught a wide variety of courses, and published a number of peer-reviewed articles frequently with other authors. Fifteen of his graduate students completed an MS thesis under his direction, a focus that generated a significant portion of the documentation for the “Checklist of the Flora of Alabama Project”. At JSU he received a Distinguished Research Award and was a founder of the Little River Canyon Field School. A large part of his

dedication to the community involved editorial work, he was editor of "Castanea" for three years and was on the Editorial Board for the "Flora of North America Project" for a number of years. In addition to ASB, he is a life member of the Southern Appalachian Botanical Society and a member of the Ecological Society of America where he is a Certified Senior Ecologist.

VICE PRESIDENT

Rebecca A. Cook – Dr. Cook is a Faculty Member of the University of Memphis on the new Lambuth Campus in Jackson, TN. She holds a B.S. in Biology from Hendrix College, a M.S. in Environmental Science from Rice University, and a Ph.D. in Botany from the University of Tennessee, Knoxville. In her current position she teaches introductory biology, microbiology, and human anatomy and physiology. She held faculty positions at Lambuth University, Monmouth College, Georgetown College and the University of Tennessee, Knoxville prior to her current position. Her research interests are in the population biology of herbaceous plants with particular interest in rare and endangered species. She is currently involved in a demography study of *Delphinium exaltatum* at Oak Ridge National Laboratory. She has been a member of ASB since 1991 and has served as Executive Committee Member-at-Large, and as chair of the Patrons and Exhibitors and the Meritorious Teaching Award Committees. As a member of SABS she has served as a Member-at-Large on the Executive Council and on committees including the Nominations Committee, Core Award Committee, and Outreach Committee.

Joey Shaw – Dr. Shaw is a University Foundation Associate Professor and Graduate Coordinator in the Department of Biological and Environmental Sciences at the University of Tennessee at Chattanooga and recognized by Board of Governors as the UT Alumni Outstanding Teacher for 2011. Joey received a B.S. in Biology from the University of Tennessee at Chattanooga (1998). He continued his education at the University of Tennessee, Knoxville where he received a M.S. in Botany (2001) under the direction of Dr. B.E. Wofford (and Drs. P. Cox and D.K. Smith) and a Ph.D. in Botany in 2005 under the direction of Dr. Randy Small (and Drs. E.E. Schilling and J. Wilson). Since beginning his professorship at UTC in 2005, he has graduated eight graduate students and mentored numerous undergraduate students through independent botanical studies – both in the lab and in the field. Students in his lab group have worked on botanical projects from floras to sensitive species monitoring to molecular based phylogenetic and phylogeographic studies. Joey teaches Plant Morphology, Plant Taxonomy, Biogeography, Environmental Genetics, and freshman Biology. His research focus is primarily in the field of plant molecular systematics, especially of the genus *Prunus* (Rosaceae), which includes such economically important species as plums, peaches, cherries, apricots, and almonds. He is currently working with several collaborators and students on the vegetation and flora of the Ocoee River Gorge in Tennessee. Joey not only teaches biology and botany in the classroom, but he has served as a volunteer trip leader for 14 years at the Annual Spring Wildflower Pilgrimage in the Great Smoky Mountains National Park. He has served as an editor for Southeastern Naturalist and as member-at-large for ASB for the last three years; during this service he has worked on the field trip committee, the publication committee, and

the student travel award committee. He is a life member of ASB and has attended every meeting since his first one in 1999. Dr. Shaw continues the tradition of his mentors, by bringing students with him to the ASB annual meeting.

**EXECUTIVE COMMITTEE
MEMBERS-AT-LARGE**

Judy Awong-Taylor – Dr. Awong-Taylor is Associate Dean and Professor of Biology at Georgia Gwinnett College, Lawrenceville, Georgia. She received her bachelor's degree in Zoology and Botany from the University of the West Indies, Trinidad, and her master's and doctoral degrees from the University of Florida in the area of Environmental Microbiology. Prior to joining GGC, Dr. Awong was a Professor of Biology at Armstrong Atlantic State University for seventeen years. During her tenure at AASU, she was actively involved in undergraduate research, student-centered learning, and K-16 collaborative activities. She is passionate about teaching and is the recipient of AASU's Kristina Brockmeier Faculty Teaching and Service Award, the H. Dean Propst Teaching Excellence Award, and the University System of Georgia's Board of Regent's Teaching Excellence Award. She has authored and co-authored several lab manuals, is the recipient of multiple grants, and has presented with her students at numerous professional conferences. Dr. Awong also served as advisor to AASU's *Beta Beta Beta* Biological Honor Society for fourteen years and has actively participated in numerous regional TriBeta Meetings. She has been an active member of ASB for many years and has served on the Microbiology Awards Committee as both a member and Chair (2008-2010). Dr. Awong also served as Interim Department Head for two years before being assigned in 2008 to the Board of Regents where she served as Director of the University System of Georgia's STEM Initiative. Dr. Awong joined Georgia Gwinnett College in 2010 and is currently serving as an Associate Dean in the School of Science and Technology. Her current academic interests include STEM Education and Environmental Microbiology.

Anisha Campbell – Dr. Campbell, Assistant Professor of Natural Sciences at Bowie State University, received her B.S. degree in Biology from Johnson C. Smith University and her PhD in Biological Sciences from Wayne State University. Dr. Campbell also did a Post-Doctorate rotation at the Henry Ford Hospital's USDA Agricultural Research Service. Anisha's research focuses on Cancer Biology and Microbiology. She has served ASB as a member of the Human Diversity Committee from 2006-2008.

William E. (Bill) Ensign – Dr. Ensign is a professor in the Department of Biology and Physics at Kennesaw State University. He received his B.A. in Zoology from the George Washington University (before most of the students attending the 2012 meeting were born), an M.S. in Ecology from the University of Tennessee (1988) and a Ph.D. in Fisheries Science from Virginia Tech (1995). His expertise is in aquatic ecology with a particular emphasis on fish diversity, distribution and abundance in freshwater streams and rivers. His research has included investigations of brook and rainbow trout abundance in the southern Appalachians, the impact of stream channel modifications on the federally endangered Roanoke logperch, recolonization success of stream fish following

fish kills, use of underwater observation for monitoring fish populations, documentation of the distribution and abundance of both fish and freshwater mussels in a variety of flowing water systems, the use of fish community structure in bioassessment, and investigations of the effects of human barriers to stream fish movement and dispersal. He has ongoing contracts with three local water authorities to assist with bioassessments in Paulding, Bartow and Cobb Counties, Georgia. As a result, he samples fishes in 12 to 20 streams each summer and has a squadron of willing and malleable undergraduates trailing behind his every-ready backpack electrofisher. Many of the students have gone beyond the role of field assistant and developed undergraduate research projects based on the summer sampling and most of these have presented their results at ASB meetings. He has twice received the Kennesaw State University College of Science and Mathematics award for Excellence in Research and Creative Activity. He has been a member of ASB since 1999 and has been active in service to the Society since 2007, including service on the Student Awards Committee and co-organizer of a symposium on research at undergraduate institutions.

Danny J. Gustafson – Dr. Gustafson is an Associate Professor of Biology at The Citadel, Charleston (SC) and has been an active member of ASB since 2003. During his time with ASB, he has served on and chaired the Conservation Committee, was the vice-chair of the Ecological Society of America Southeastern Chapter, and chaired the Eugene P. Odum Award Committee for the ESA Southeastern Chapter. His education includes a B.A. in Biology and Medical Technology from Blackburn College, M.S. in Plant Ecology/Conservation Biology from Illinois State University (Dr. Roger Anderson's Laboratory), and a Ph.D. in Plant Molecular Ecology from Southern Illinois University (Drs. David Gibson and Daniel Nickrent's Laboratories). After postdoctoral work with Dr. Brenda Casper at the University of Pennsylvania, he accepted the position at The Citadel in fall of 2003. The Citadel Plant Ecology Laboratory (CPEL) is his active and productive research laboratory, thanks to the talents and hard work of our Cadets (Citadel Undergraduates). College of Charleston and The Citadel graduate students also participate in research activities with CPEL too. His approach to research at this small, primarily undergraduate college is to get the students involved in all aspects of the scientific process. Students are expected to present their research at scientific meetings, with some students coauthoring papers in peer reviewed scientific journals. He would like to applaud ASB for the quality of the society's website, adoption of Southeastern Naturalist as the official journal, and more streamline meeting registration/abstract submission process. He has enjoyed his time with ASB and would like to see the society continue to grow with the next generation of young scientists. ☺

73rd Annual Meeting Program of the Association of Southeastern Biologists



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History of University of Georgia

When the University of Georgia was incorporated by an act of the General Assembly on January 27, 1785, Georgia became the first state to charter a state-supported university. In 1784 the General Assembly had set aside 40,000 acres of land to endow a college or seminary of learning.

At the first meeting of the board of trustees, held in Augusta on February 13, 1786, Abraham Baldwin was selected president of the university. A native of Connecticut and a graduate of Yale University, Baldwin—who had come to Georgia in 1784—drafted the charter adopted by the General Assembly. The university was actually established in 1801 when a committee of the board of trustees selected a land site. John Milledge, later a governor of the state, purchased and gave to the board of trustees the chosen tract of 633 acres on the banks of the Oconee River in northeast Georgia.



Josiah Meigs was named president of the university and work was begun on the first building, originally called Franklin College in honor of Benjamin Franklin and now known as Old College. The university graduated its first class in 1804. The curriculum of traditional classical studies was broadened in 1843 to include courses in law, and again in 1872 when the university received federal funds for instruction in agriculture and mechanical arts.

Sixteen colleges and schools, with auxiliary divisions, carry on the university's programs of teaching, research, and service. These colleges and schools and the dates of their establishment as separate administrative units are: Franklin College of Arts and Sciences, 1801; College of Agricultural and Environmental Sciences, 1859; School of Law, 1859; College of Pharmacy, 1903; D. B. Daniel B. Warnell School of Forestry and Natural Resources, 1906; College of Education, 1908; Graduate School, 1910; C. Herman and Mary Virginia Terry College of Business, 1912; Henry W. Grady College of Journalism and Mass Communication, 1915; College of Family and Consumer Sciences, 1933; College of Veterinary Medicine, 1946; School of Social Work, 1964; College of Environment and Design, 1969; School of Public and International Affairs, 2001; the College of Public Health, 2005 and the Odum School of Ecology, 2007. The Division of General Extension, now the Georgia Center for Continuing Education Conference Center & Hotel, was incorporated into the university in 1947.

From the UGA.edu web site. The majority of the text above was reproduced from F.N. Boney's book, *A Pictorial History of the University of Georgia*, 1984, University of Georgia Press.

Affiliate Organizations Meeting with ASB in 2012**American Society of
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and Herpetologists,
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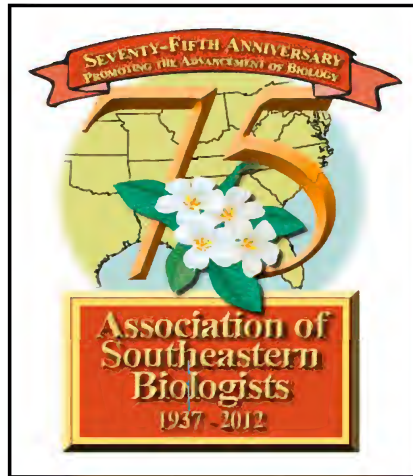


Program Committee for 2012 ASB Meetings

Chair: Nicole Welch

Members: Brian Toone
Howie Neufeld
Patricia Cox
Zack Murrell

The program committee wishes to thank Mark Suggs, Appalachian State University Learning Technology Services, for his help in formatting this document. Brian Toone's computer expertise made this all happen, and we are most grateful for all his efforts. Nicole, Patricia, Howie and Zack thank these two experts on behalf of ASB.



**ASB-Athens
Thursday Night Social
April 6th, 2012
Magnolia Room, Georgia Center
“The Devil Went Down to Georgia”
Featuring
“The Highballs”**

A beer and BBQ feast that deserves having “You” attend! Athens, GA is legendary for great music with the birth of REM and the B-52’s. And, this year’s Thursday Night Social is no different! The Highballs are a talented, action-packed, dance & party-the-night-away band featuring your favorites from the 80’s and old-school classics!

Don’t Miss The Fun!

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2012 Meeting Information



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Registration Hours — ASB Athens

Wednesday, April 4, 2012

11am – 9pm

Thursday, April 5, 2012

7am – 7pm

Friday, April 6, 2012

7am – 2pm

Enrichment Fund Challenge

Make a donation to the enrichment fund of \$1 or more at the Registration Desk and receive a special Enrichment Fund ribbon to wear on your badge! A \$25 or more donation will enter you in the \$100 cash drawing to be given away at the Friday Night Awards Banquet!

Exhibit Hall Hours – ASB Athens

Wednesday, April 4, 2012

9am – 4pm Exhibitor Move-In

12noon – 2pm Exhibitor Pizza Party-Exhibitors Only

Thursday, April 5, 2012

8am – 5pm Exhibits Open

Friday, April 6, 2012

9am – 2pm Exhibits Open

2pm – 4pm Exhibitor Move-Out

Meeting-at-a-Glance

| <u>Day/Time</u> | <u>Event</u> | <u>Location</u> |
|---------------------------|---|---|
| Wednesday, April 4 | | |
| 9 am–4 pm | Exhibitor Move-in | Mahler Auditorium/Hill Atrium |
| 11 am–9 pm | Registration Open | Pecan Tree Galleria |
| 11 am–2 pm | Exhibitor Pizza Lunch (exhibitors only) | Mahler Auditorium |
| Noon–10 pm | PowerPoint and Preview Check | Room J |
| 1 pm–6 pm | ASB Executive Committee Mtg. | Betty Jean Craig Boardroom |
| 1 pm–6 pm | SABS Executive Council Mtg. | Room T/U |
| 3 pm–11 pm | Shuttle Bus Service | to/from overflow hotel |
| 7:30 pm–9 pm | Welcome and Plenary Speaker: Dr. David Schimel (Chief Science Officer for NEON) <i>The Strategy of Ecosystem Development Revisited</i> <i>Through Modern Observing Systems</i> | Master's Hall |
| 9 pm–10:30 pm | Plenary Welcoming Session (must have ticket to attend) | Magnolia Ballroom |
| Thursday, April 5 | | |
| 7 am–midnight | Shuttle Bus Service | to/from overflow hotel |
| 7 am–7 pm | Registration Open | Pecan Tree Galleria |
| 7 am–5 pm | PowerPoint Check and Preview | Room J |
| 7 am–8:30 am | ASB Past President's Breakfast | Magnolia Ballroom |
| 7 am–8 am | ASB Poster Session I Setup (1–124) | Mahler Auditorium/Hill Atrium |
| 8 am–5 pm | Exhibits Open | Mahler Auditorium |
| 8 am–5:30 pm | Posters on Exhibit | Mahler Auditorium/Hill Atrium |
| 8 am–10 am | ASB Paper Presentations Floristics & Plant Systematics I Entomology/Invertebrate Zoology Community & Population Ecology I Evolutionary Biology Conservation Biology I | Master's Hall Room K Room L Room R Room Q |
| 10 am–10:15 am | Break–Visit Posters and Exhibits | |

| <u>Day/Time</u> | <u>Event</u> | <u>Location</u> |
|--------------------------|--|-------------------------------|
| Thursday, April 5 | | |
| 10 am–11 am | SHC Executive Board Meeting | Room T/U |
| 10:15 am–noon | ASB Paper Presentations | |
| | Floristics & Plant Systematics I | Master's Hall |
| | Entomology/Invertebrate Zoology | Room K |
| | Community & Population Ecology I | Room L |
| | Evolutionary Biology | Room R |
| | Conservation Biology I | Room Q |
| 10:30 am–noon | ASB Professional Workshop: | Room V/W |
| | Biopac Student Laboratory Workshop | |
| 11 am–noon | ASB Poster Session 1 | Mahler Auditorium/Hill Atrium |
| | (odd numbered posters, 1–123) | |
| | Presenters must be present | |
| noon–5 pm | β β β Field Trip | Georgia Botanical Garden |
| noon–1:30 pm | Lunch (Individuals and Organizations) | |
| | Individuals (pre–order only with ticket) | Box lunch |
| | | Pecan Tree Galleria |
| | Lunch Bar (cash or ticket only)–See | Program |
| | for other lunch options | Magnolia Ballroom |
| | Human Diversity Luncheon & Roundtable | |
| | | Magnolia Ballroom |
| | Discussion of Diversity and Future of ASB | |
| | SWS South Atlantic Chapter Luncheon | |
| | | Oak Room |
| | SHC SE Chapter Luncheon | Magnolia Ballroom |
| 1:30 pm–5:30 pm | ASB Professional Workshop: | Room V/W |
| | Associated Microscope: Network | |
| | Digital Microscope Solution | |
| 1:30 pm–5:30 pm | Symposium I: | Masters Hall |
| | Next Generation Approaches To | |
| | Phylogenetics and Phylogeography | |
| | in Southeastern Systems | |
| 1:30 pm–3:15 pm | ASB Paper Presentations | |
| | Scholarship of Teaching & Learning | Room K |
| | Community & Population Ecology II | Room L |
| | Herpetology/Ichthyology I | Room R |
| | Conservation Biology II | Room Q |
| | Ecosystem/Landscape Ecology | Room Y/Z |

| <u>Day/Time</u> | <u>Event</u> | <u>Location</u> |
|--------------------------|--|--|
| Thursday, April 5 | | |
| 3:15 pm–3:30 pm | Break–Visit Posters and Exhibitors | |
| 3:30 pm–5:00 pm | ASB Professional Workshop: Bio–Rad Laboratories Integrated Molecular Biology Labs for College Level | Room V/W |
| 3:30 pm–4:30 pm | ASB Paper Presentations Scholarship of Teaching & Learning I Community & Population Ecology II Herpetology/Ichthyology I Conservation Biology II Ecosystem/Landscape Ecology | Room K Room L Room R Room Q Room Y/Z |
| 4:30 pm–5:30 pm | ASB Poster Session II (even numbered posters, 2–124) Presenters must be present | Mahler Auditorium/Hill Atrium |
| 5:30–6 pm | Poster removal | Mahler Auditorium/Hill Atrium |
| 6:30 pm–8 pm | Thursday Night Social Buffet Dinner | Magnolia Ballroom |
| 8 pm–11 pm | The Devil Went Down to Georgia Live Band featuring: “The Highballs” Tickets required | |
| Friday, April 6 | | |
| 7 am–11 pm | Shuttle Bus Service | to/from overflow hotel |
| 7 am–2 pm | Registration Open | Pecan Tree Galleria |
| 7 am–5 pm | PowerPoint Check and Preview | Room J |
| 7 am–8:30 am | SABS/BSA Breakfast | Magnolia Ballroom |
| 7 am–8:30 am | ASB Patrons & Exhibitors Breakfast | Magnolia Ballroom |
| 7 am–8 am | ASB Poster Session III and β β β Poster Session Setup (Posters 125–199) | Mahler Auditorium/Hill Atrium |
| 8 am–6 pm | β β β Officers & Judges Room | Room E |
| 8:30 am– 11:30 am | Symposium II: A New Vision for Undergraduate Biology Education | Master’s Hall |
| 8:30 am–10 am | ASB Paper Presentations Herpetology/Ichthyology II Freshwater Ecology/Aquatic Biology Physiological and Population Ecology Floristics and Plant Systematics I | Room K Room L Room Q Room R |

| <u>Day/Time</u> | <u>Event</u> | <u>Location</u> |
|------------------------|---|--|
| Friday, April 6 | | |
| 9 am–4 pm | ASB Poster Session III and $\beta\beta\beta$ Posters (Posters 127–211) | Mahler Auditorium/Hill Atrium |
| 9 am–11 am | $\beta\beta\beta$ Joint Business Meeting | Magnolia Ballroom |
| 9:30 am–noon | $\beta\beta\beta$ Poster Presentations | Mahler Auditorium/Hill Atrium |
| 10 am–11 am | SHC Executive Board Meeting | Betty Jean Craig Boardroom |
| 11 am–noon | ASB Poster Session III (Posters 125–199) Presenters must be present | Mahler Auditorium/Hill Atrium |
| 10 am–10:15 am | Break–Visit Posters and Exhibitors | |
| 10:15 am–11:30 am | ASB Paper Presentations Herpetology/Ichthyology II Freshwater Ecology/Aquatic Biology Physiological and Population Ecology Floristics and Plant Systematics I | Room K Room L Room Q Room R |
| Noon–12:30 pm | ASB Business Meeting | Master's Hall |
| 12:30 pm–1:45 pm | Lunch (Individuals and Organizations) Individuals (pre–order only with ticket) Box lunch–Pecan Tree Galleria Lunch Bar (cash or ticket only) ESA Luncheon and Business Mtg. Education Committee Luncheon and Roundtable Discussion: How May We Serve You? | Magnolia Ballroom Magnolia Ballroom Magnolia Ballroom Magnolia Ballroom |
| 1 pm–4 pm | $\beta\beta\beta$ Paper Presentations | Rooms T/U, K and L |
| 1:45 pm–5 pm | Symposium III: Lakes as Sentinels of Landscape Change and Biodiversity in the Southeast | Master's Hall |
| 1:45 pm–3:15 pm | ASB Paper Presentations Scholarship of Teaching & Learning II Microbiology Genetics and Cell/Molecular Biology | Room F/G Room Y/Z Room Q |
| 3:15 pm–3:30 pm | Break | |

| <u>Day/Time</u> | <u>Event</u> | <u>Location</u> |
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| 3:30 pm–4:15 pm | ASB Paper Presentations | |
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|---------------------------------------|----------|
| Scholarship of Teaching & Learning II | Room F/G |
| Microbiology | Room Y/Z |
| Genetics and Cell/Molecular Biology | Room Q |
| Floristics and Plant Systematics II | Room R |

| Friday, April 6 | | |
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| 4 pm–6 pm | β β β Joint Session and Awards | Room K/L |
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| 4 pm–5:30 pm | SABS/BSA Botany Students | |
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| | Reception | Magnolia Ballroom |
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| 5 pm–6 pm | ASB and β β β Poster Removal | Mahler Auditorium/Hill Atrium |
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| 5 pm–6 pm | SHC Business Meeting | Room Y/Z |
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| 6 pm–7 pm | Awards Banquet Reception | Pecan Tree Galleria |
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| 7 pm–9:30 pm | Awards Banquet | Magnolia Ballroom |
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| | Dinner and Presentation of Awards | |
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| Saturday, April 6 | | |
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|-----------------|-----------------------------------|----------|
| 7:30 am–8:30 am | ASB Executive Committee Breakfast | Oak Room |
|-----------------|-----------------------------------|----------|

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| 8:30 am–noon | ASB Executive Committee Meeting | Betty Jean Craig Boardroom |
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| 8 am–5 pm | SERNEC Workshop | Master's Hall |
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| 8 am–5 pm | ASB Field Trips | |
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| 8 am | Birding at Georgia Botanical Garden | |
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| | Meet at Bot. Gdn Visitor's Ctr. | |
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| 10 am | Natural Treasures of Flannery O'Conner | |
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| | Meet in Andalusia, GA | |
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| 9 am | Madison County, GA (Odum Preserve) | |
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| | Meet in Parking Lot S07 | |
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| 9 am | Georgia Aquarium | |
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| | Meet in GA Ctr. Lobby | |
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Information About the Georgia Center

Welcome to The Georgia Center!

■ While You are Here

If you need assistance during your stay, please stop by the **Hotel Front Desk**, or **Guest Services** (located at the Carlton Street Main Entrance).

■ Dining

All dining facilities are located on the first floor near the hotel lobby. Meals during events are held in the **Magnolia Ballroom**, **Oak Room**, or **President's Dining Room (PDR)**.

Enjoy an exquisitely prepared meal or specialty drink at one of the four on-site restaurants at The Georgia Center:

One of Athens' finest restaurants, the **Savannah Room**, offers a range of gourmet entrées, vegetarian and special selections, superb desserts and a full bar.

Quick, and casual, the **Courtyard Café** offers cafeteria-style hot lunch entrées, soup and salads.

Need a coffee or sweet-tooth fix? **Georgia Java** proudly serves Starbucks® coffee as well as a full line of specialty drinks and baked goods.

Unwind at the **Dawg House Lounge**, offering a full bar and an extensive tavern menu.

■ Business Center

The **Business Center**, located across from Conference Room J, offers self-service workstations with computers and printers. Open to all Georgia Center guests, 7 a.m. to 11 p.m. Hotel guests have 24-hour access with hotel room keycards.

■ Internet

Wireless Internet is available throughout The Georgia Center. In order to comply with University of Georgia security policy, the system requires a username and password. **UGA faculty, staff, and students** may log in using their UGA MyID accounts. **If you do not have a UGA MyID account**, please contact a Georgia Center employee at the Hotel Front Desk or the Conference Registration Desk for a guest account.

■ Exercise Facilities

UGA's **Ramsey Student Center for Physical Activities** is available for your use as a conference participant or a guest of The Georgia Center's Hotel. Take your conference name badge or room keycard, a picture ID, and a towel. The fee is \$7.00 per day (towel service is an additional \$1.00).

■ Keeping in touch

Phone messages may be left for you at The Georgia Center's Hotel at 706-548-1311. If you are a guest, voicemail is also available on your room phone.

You may send and receive **faxes** at the Hotel Front Desk. The fax number is 706-542-1409.

■ Other helpful information

To **plan an event at The Georgia Center**, stop by our **Sales Office** in Suite 175 or call 706-542-2654.

The **Lost and Found** service can be reached Monday-Friday from 9 a.m. to 4 p.m. at 706-542-6186.

■ Recycling at the Georgia Center

The Georgia Center recycles paper, aluminum cans, and plastic bottles. Please use the recycling bins located in the public areas throughout the building for your recyclables.

■ Please see the Map on the Back of this Sheet.



1197 South Lumpkin Street • Athens, GA 30602-3603
800-488-7827 • www.georgiacenter.uga.edu

The University of Georgia is committed to principles of equal opportunity and affirmative action.

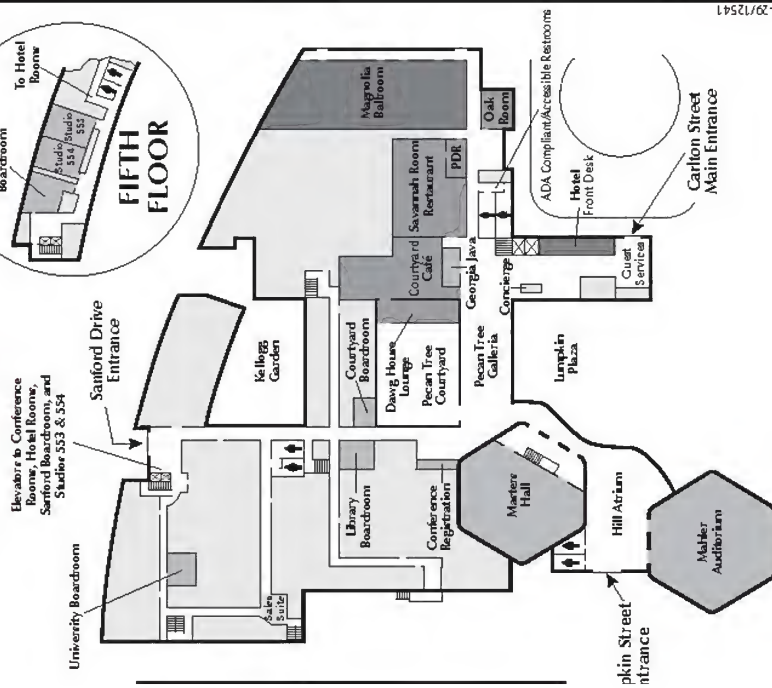
THE GEORGIA CENTER

THE UNIVERSITY OF GEORGIA'S CONFERENCE CENTER & HOTEL

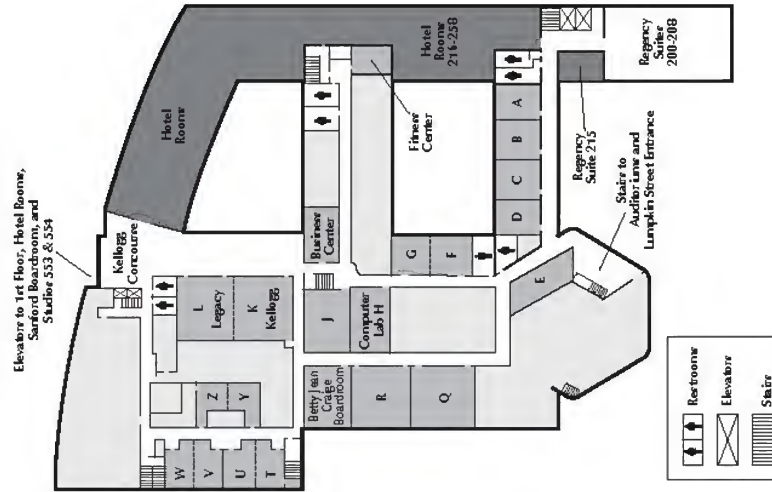
Georgia Center Meeting Rooms



FIRST FLOOR



SECOND FLOOR



02-29/12541

Transportation and Parking at the Georgia Center

TRANSPORTATION AND PARKING

Athens is located about 60 miles northeast of Atlanta. Athens is served by two airports, Athens-Ben Epps Airport and Atlanta Hartsfield-Jackson International Airport, which is located about 90 minutes southwest of Athens. Direct flights from Athens to Atlanta are available through Georgia Skies.

Guest Parking at The UGA Hotel and Conference Center

During your visit, parking is available in the University's South Campus Parking Deck, located adjacent to the UGA Hotel.

Parking Rates:

- Daily fees are \$4 for the first hour
- \$1 for each additional hour
- Maximum of \$10 for each 24-hour period parked
- Special rates are in effect for UGA home football games.

If you have lodging at the UGA Hotel, you may unload your car at the front circle of the Hotel (Carton Street), then park in the parking deck.

Assistance with your belongings will be provided by our Concierge attendants if needed. Your automobile may remain at this location while you register at the hotel desk but should be moved promptly to the parking deck after check in.

A daily flat-rate parking charge can be added to your room bill, if you wish, and you will be given a parking pay voucher to give to the parking attendant. This pay voucher will allow you in and out access for the duration of your visit.

Vans and other vehicles over seven feet tall cannot fit in the parking deck but arrangements can be made after arrival to secure outside parking.

Motorcycles are not permitted within the parking deck but may be parked near the main entrance to The UGA Hotel.

The South Campus Parking Deck is operated by the University of Georgia and is not governed by the Hotel.

The parking deck is open 24 hours.

Ground Transportation

Scheduled ground shuttle service and rental car services are available between Atlanta Hartsfield-Jackson International Airport and The UGA Hotel and Conference Center.

Shuttle Service to/from Atlanta Hartsfield-Jackson International Airport

- Bulldog Limousine: 706-613-5206
- Southeastern Stages: 706-549-2255
- Embassy Limousine: 706-227-3255
- The Limousine Company: 706-227-1324
- Groome Transportation: 706-612-1155

Athens Taxi Services

- The Limousine Company: 706-227-1324
- Top Dawg Taxi Service: 706-552-0744
- Your Cab: 706-546-5844
- United Taxi: 706-549-0808

Athens Auto Rental Companies

- Enterprise: 706-546-8067
- Budget: 706-353-0600
- Hertz: 706-543-5984
- U-Save Auto Rental: 706-548-4960

UGA Hotel Shuttle Service is free to hotel guests and serves the local Athens area, including the UGA Athens Campus and Ben Epps Airport. Call the Concierge Desk: 706-542-1932.



UGAHOTEL.COM 800.884.1381

Shuttle Bus Schedules

ASB Athens--Conference Shuttle Schedule

(ASB Shuttle Service to/from Georgia Center & to/from Holiday Inn Only)

Note: There are other transportation services to/from downtown - Please check with the front desk for availability.

For Assistance: Please call Scott Jewell 336-213-7373.

Pick-Up and Drop-Off: At the Sanford Drive Entrance/Hotel Check-In Entrance

Depart Every 15 minutes from Holiday Inn to Georgia Center

Wed: 3pm-11pm

Thurs: 7am-Midnight

Fri: 7am-11pm

Depart Every 15 minutes from Georgia Center to Holiday Inn

Wed: 3pm-11pm

Thurs: 7am-Midnight

Fri: 7am-11pm

Technology Notes

There is free wifi internet access throughout The Georgia Center. There is also a business center with computers located on the second floor across from Conference Room J, which is open to all guests from 7 am to 11 pm. Hotel guests have 24-hour access by using their room keycards. In addition, Conference Room J is available for ASB paper presenters to preview their PowerPoint slides.

ASB Athens Lunch & Meal Options at the Georgia Center

- 1) **Box Lunches—Pre-ordered ONLY**
Pick Up in Pecan Tree Galleria--You *MUST* have a Ticket
- 2) **Lunch Bar—Pre-ordered ONLY**; Thursday Deli Bar; Friday Pasta Bar
You *MUST* have a Ticket. You can also pay cash at the door or purchase a ticket at the Registration Desk with a credit card. Location- Magnolia Ballroom
- 3) **The Savannah Room**—A Full Service Restaurant and fine dining, adjacent to the hotel lobby
Lunch: 11:30 am – 2:00 pm, Monday-Friday
Dinner: Monday-Saturday: 5 pm - 8:30 pm, 5 pm - 6 pm Early Specials
- 4) **Courtyard Café**—grab a quick and hearty breakfast, lunch or snack.
Note: UGA staff and students will access during lunch hours
Hours: Monday – Sunday, 7 am - 3 pm
Breakfast: Monday-Friday 7 am – 10 am Sat and Sun, 7am – 10:30 am.
Lunch: Cafeteria-style hot lunch entrées, soup and salads are served M-F, 11 am – 2 pm
Deli sandwiches, made to order, are available daily, 11 am – 3 pm
- 5) **Georgia Java**—located near the front desk, proudly serves Starbucks® coffee and a full line of specialty drinks, including cappuccino, espresso, fresh-fruit smoothies and frozen beverages. Try Georgia Java's homemade baked goods, including the "grande" muffins and tempting sticky buns, plus delectable scones and cookies.
Hours: 6:30 am – 5 pm, Monday-Sunday
- 6) **Dawg House Lounge**—a full bar as well as an extensive tavern menu.
Opened daily 4 pm - 10 pm
- 7) **Room Service**—Mon-Sun 5 pm - 8:30 pm

Dining in Athens

Price Range: *** = Expensive, ** = Moderate, * = Inexpensive

Award Winning Restaurants in Athens

Five and Ten* – Continental cuisine with southern flavor**
(<http://www.fiveandten.com/>)

1653 S. Lumpkin Street, Athens, GA

Farm 255 – Local food, from cooperatives.**

(<http://www.farm255.com/>)

255 W. Washington Street, Athens, GA (706-549-4660)

Weaver D's* – Downhome southern and soul food cooking
(706-353-7797)

1016 East Broad Street, Athens, GA

Last Resort – Continental cooking with a flair**

(<http://www.lastresortgrill.com/>)

174-184 West Clayton Street, Athens, GA

The Grit (vegetarian)* – great local southern food

(<http://www.thegrit.com/>)

199 Prince Avenue, Athens, GA (706-543-6592)

For more listings, visit (<http://www.visitathensga.com/restaurants/dining-listings/>). Athens has many different styles of restaurants to fit any craving and budget, from local BBQ to upscale award winning fine cuisine, to most of the national chains.

PLENARY SPEAKER

DR. DAVID S. SCHIMEL

**Address Title: *The Strategy of Ecosystem Development*
Revisited Through Modern Observing Systems**

Dave Schimel is the Chief Science Officer and Principal Investigator for the National Ecological Observatory Network (NEON). NEON is a project of the U.S. National Science Foundation, with many other U.S. agencies and NGOs cooperating. The National Ecological Observatory Network (NEON) will collect data across the United States on the impacts of climate change, land use change and invasive species on natural resources and biodiversity. NEON will be the first observatory network of its kind designed to detect and enable forecasting of ecological change at continental scales over multiple decades. Dave Schimel brings a wealth of relevant experience to his work at NEON; he served as a Senior Terrestrial Scientist in NCAR's Climate and Global Dynamics Division for 16 years, and was Founding Co-Director of the Max-Planck



Institute for Biogeochemistry. Dave is one of the recipients of the Nobel Peace Prize for his work in 2007 on the Intergovernmental Panel on Climate Change Report, and has authored more than 150 papers on biogeochemistry climate impacts on ecosystems and the global carbon cycle. Dave also serves as the Editor in Chief of Ecological Applications for the Ecological Society of America. His career has focused on the large-scale relationships of land management and climate change on ecosystem processes and includes expertise in managing large, complex research projects, remote sensing, data management, modeling, and the application of ecological research to science policy development. Dave served as CEO of NEON from 2006 to 2011, overseeing NEON's design and development phase to successful completion.

We welcome Dr. Schimel to the 73rd Annual Meeting of the Association of Southeastern Biologists as we celebrate our 75th anniversary of serving the biological needs of the southeastern region of the country.

Silent Auction

The silent auction was established in 2006 to raise money to help defer travel cost for Graduate Student members presenting papers or posters during the ASB Annual Meeting. Since 2006, ASB has granted more than \$32,000 to qualifying students. Of that, the silent auction has added a little over \$11,000.00 (36%) to the graduate student travel fund. Donated items include books, handcrafts, memorabilia, nature photography, t-shirts, gift baskets, gift cards, jewelry, wine, fishing tackle, insect nets, and much more.

- For those that have items to donate to the silent auction, please bring your donation to the Silent Auction Area in the Exhibit Hall before 10:00 am on Thursday April 5th and one of the committee members will be available to receive it.

We want to thank you for participating in this worthwhile event. If you have any questions, please feel free to contact one of the Committee Members below:

Patricia Cox
Kim Marie Tolson
Pat Parr

Eloise Carter
Bonnie Kelley
Diane Nelson

Field Trips

1. Birding at the State Botanical Garden of Georgia in Athens, GA.

Trip Leaders: Caralyn Zehnder (caralyn.zehnder@gcsu.edu) (478-445-2372), Georgia College & State University and Will Duncan (will_duncan@fws.gov) from the US Fish & Wildlife Service.

Meeting Place: Please meet at the fountain outside the Botanical Gardens Visitors Center at 8 am. There is no entrance fee.

The State Botanical Garden of Georgia (<http://botgarden.uga.edu/>) is located along the Oconee River and contains approximately 5 miles of easy hiking trails (not that we'll necessarily hike them all) through wooded and open habitats. We should be able to see spring migrants as well as some of our favorite resident species. Wear comfortable walking shoes, clothes that can get a little dirty, and bring binoculars if you have them. We will also have several binoculars available if anyone needs a pair. Email us if you need a pair.

Directions: The Garden is located at 2450 S. Milledge Ave in Athens, Georgia. From the UGA Hotel & Convention Center, head southwest on Lumpkin St. Turn left onto Milledge Avenue (heading south). Travel 2.4 miles down Milledge Ave. The Botanical Gardens will be on your right.

2. The Martha H. and Eugene P. Odum Watershed, *Spring Hollow*, Madison County, GA.

Trip Leaders: Terry L. Barrett (tbarret@uga.edu), and Gary W. Barrett (gbarrett@uga.edu).

Meeting place: Please park your vehicle in Parking Lot S07, which is adjacent to the Eugene P. Odum School of Ecology Building. Please meet promptly in Parking Lot S07 at 9 am, as we will leave from this parking lot.

Cost: Please have twenty-five dollars (\$25) in cash to pay for lunch and wine tasting.

Spring Hollow is located in proximity to Ila, Georgia. This one hundred, fifty-two-acre (62-ha) property encompasses a log house for gathering, reference watershed, pond, and old-growth forest. Martha H. and Eugene P. Odum provided an endowment of three hundred thousand dollars (\$300,000) through the *University of Georgia Foundation* for the maintenance and support of this facility. Restoration of the log house circa 1821 has begun, including completion of a cedar-plank shingle roof. An interpretive nature trail recently has been traced through the property; this trail focuses on careful observation of indigenous flora and fauna, and unique topography regarding ecological and anthropogenic management. A map from Athens to *Spring Hollow* will be provided for road trip participants at the meeting place.

Experience barbeque as southern culture. *Bill's Bar-B-Que* offers among traditional plates, pulled pork, slaw, Brunswick stew served with slices of white bread, and accompaniments of vinegar-based sauces. *Bill's Bar-B-Que* (<http://www.yelp.com/biz/billsbar-b-que-hull>).

Afternoon tasting of regional wines: With a careful emphasis on viniculture, *Boutier* vineyards are situated in the temperate Piedmont Region of Georgia. The long growing season and constant breezes help keep fruit and foliage dry and encourage rich, ripe fruit, and healthy vines. Incorporating these fruits, Owners Mary Jakupi Boutier and Victor Boutier, WineMaker, synthesize their wines earning national and international awards. *Boutier Winery & Vineyard* (<http://www.boutierwinery.com>).

3. Visit the Georgia Aquarium. This is an unguided tour (i.e., there is no official leader) and a chance for like-minded people to visit the Georgia Aquarium together.

Meeting Place: Meet in the lobby of the Georgia Convention Center at 9 am on Saturday morning and potentially carpool to the aquarium. General admission is ~\$25/person, but possible to get group rates (we will negotiate these after we know how many people have signed up for this field trip).

4. Natural Treasures of Flannery O'Connor's Andalusia, Milledgeville.

Trip Leaders: Craig Amason, Executive Director of Andalusia (wiseblood@andalusiafarm.org) and Melanie DeVore, Georgia Power Endowed Chair of Environmental Science, Georgia College (melanie.devore@gcsu.edu)

Meeting Place: Follow Highway 441 out of Athens South to Milledgeville . After crossing Lake Sinclair and entering Baldwin County, travel approximately 5 miles and look for Butler Ford Honda automobile dealership on the left side of the highway as you approach Milledgeville. The driveway to Andalusia is located on the right side of Highway 441 just beyond the dealership. Join us 10 AM, Saturday April 7 at Andalusia to explore the natural treasures of this significant literary and historical site. Bring your lunch. The trails can be wet in April and ticks are in season.

Andalusia is the picturesque farm where the highly acclaimed American author Flannery O'Connor lived in Milledgeville, Georgia from 1951 until her death in 1964. O'Connor was living at Andalusia when she completed all of her published books of fiction: two novels and two collections of short stories. This 544-acre estate is composed of gently rolling hills divided into a farm complex, hayfields, pasture, ponds, creeks, wetlands, and forests. At Andalusia, O'Connor found the source of many of the settings, situations, and fictional characters that are the signature of her stories. The property has an abundance of wildlife: white-tail deer, wild turkey, beaver, raccoons, foxes, aquatic birds, and a whole host of reptiles and amphibians. Andalusia is also home to the Georgia champion sugarberry tree *Celtis laevigata* and a diverse sampling of the Fall Line flora.

Additional Activities

The State Botanical Garden of Georgia – really nice indoor and outdoor gardens, plus lots of trails -- located ~10 minutes from UGA [free] (<http://botgarden.uga.edu/>).

UGA Botany Greenhouses – Our greenhouses are really nice and have an impressive teaching collection, complete with a fern room, desert room, and a two-story tropical room [free] (<http://www.plantbio.uga.edu/>)

Atlanta Botanical Garden – ~1.5 hours west of Athens. Daily admission ticket prices are as follows:

- Children under three are free
- Children age 3-12: \$12.95
- Adults: \$18.95

(<http://www.atlantabotanicalgarden.org/>)

Tallulah Gorge – 2 hours north of Athens [\$5 parking] (<http://www.gastateparks.org/TallulahGorge>)

Unicoi State Park – 1.5 hours north of Athens [~ \$2/person to visit Anna Ruby Falls] (<http://www.gastateparks.org/Unicoi>)

Symposia

(All symposia take place in Master's Hall)

1:30 pm – 5:30 pm, Thursday, April 5th

Symposium I: *Next Generation Approaches to Phylogenetics and Phylogeography in Southeastern Systems*
Session Chair: Ashley Morris

8:30 am – 11:30 am, Friday, April 6th

Symposium II: *A New Vision for Undergraduate Biology Education*
Session Chair: Nicole Welch

1:45 pm – 5:00 pm, Friday, April 6th

Symposium III: *Lakes as Sentinels of Landscape Change and Biodiversity in the Southeast*
Session Chair: Alan Covich

Workshops

ASB Professional Workshops

Biopac Student Laboratory Workshop
10:30 am – noon, Thursday, April 5th, Room V/W

Associated Microscope: Network Digital Microscope Solution
1:30 pm – 5:30 pm, Thursday, April 5th, Room V/W

Bio-Rad Laboratories: Integrated Molecular Biology Labs for College Level
3:30 pm – 5:00 pm, Thursday, April 5th, Room V/W

SERNEC Workshop

8:00 am – 5:00 pm, Saturday, April 7th, Master's Hall

ASB Paper and Poster Sessions

Wednesday, April 4th

| Time | Talk | Location |
|-----------------------|--|-----------------|
| 7:30 pm – 9 pm | ASB Plenary Session: Dr. David Schimel, Chief Science Officer and Principal Investigator for NEON: <i>The Strategy of Ecosystem Development Revisited Through Modern Observing Systems</i> | Master's Hall |

ASB Poster and Paper Sessions

Thursday am, April 5th

**ASB Poster Session, Mahler Auditorium/Hill Atrium
(Numbers 1 – 124, 200-208)**

**(Session I: Odd number presenters with posters 11 am to
noon)**

**(Session II: Even number presenters with posters 4:30 pm –
5:30 pm)**

Community and Conservation Ecology

- P1 **Joseph McKenna, Jonathan Horton, C. R. Rossell, H. D. Clarke and Jennifer Rhode Ward.** Habitat characteristics and considerations for conservation of *Spiraea virginiana* Britton, an imperiled riparian shrub. UNC Asheville, NC.
- P2 **David Seals and Robert Carter.** Population status of the American black bear (*Ursus americanus*) in northeast Alabama. Jacksonville State University, AL.
- P3 **Anne B. Cubeta¹ and Joel M. Gramling².** Using species distribution modeling to develop a restoration framework for *Lindera melissifolia* in the southeastern coastal plain. ¹College of Charleston, SC, ²The Citadel, SC.
- P4 **Scott M. Arico, H. D. Clarke and C. R. Rossell.** Browsing behavior of *Castor canadensis* on the federally threatened shrub *Spiraea virginiana* along the Cheoah River, North Carolina. University of North Carolina at Asheville, NC.
- P5 **Jessica Delo¹, Jennifer E. Layton¹ and Thane Wibbels².** Genetic implications of relocating loggerhead sea turtle eggs from the Alabama coast in response to the Deepwater Horizon oil spill. ¹Samford University, AL, ²University of Alabama at Birmingham, AL.
- P6 **Kristen K. Cecala.** The role of behavior in influencing headwater salamander responses to anthropogenic disturbance. University of Georgia, GA.
- P7 **Jordan J. Sikkema, Joey Shaw and Jennifer Boyd.** Effects of invasive species on federally threatened *Scutellaria montana* Chapm. University of Tennessee Chattanooga, TN.
- P8 **James M. Searels, Karissa D. Keen and Jonathan Horton.** The influence of abiotic and physiological factors on ginsenoside content in above and below ground tissue of American ginseng. University of North Carolina in Asheville, NC.
- P9 **Kunsiri C. Grubbs.** Historical plant uses by the Catawba Tribe. Winthrop University, NC.
- P10 **Shannon Romano and Richard M. Austin.** Effects of synthetic estrogen (17 β -estradiol) on the microbial populations of cutaneous bacteria in *Desmognathus quadramaculatus*, black-bellied salamanders. Piedmont College, GA.

- P11 **Justley Harston¹, Chris Holland^{1,2}, Yin Gu¹, Tommy Bohrmann¹, Robin van Meter¹, Tom Purucker².** An EPA modeling dashboard for ecological assessment of pesticides. ¹USEPA, GA, ²University of Georgia, GA.
- P12 **Andrew D. Glass.** Implications of land use changes on human-wildlife conflicts and environmental conditions in the Amboseli ecosystem, Kenya. Guilford University, NC.
- P13 **Clifford Bryan, Kirsten Work and Melissa Gibbs.** Nutrient leaching from fecal material of the exotic armored catfish, *Pterygoplichthys disjunctivus*. Stetson University, FL.
- P14 **Tamara C. Johnson¹, Jennifer M. Cruse-Sanders² and Gerald S. Pullman¹.** Micropropagation and seed cryopreservation of the critically endangered species Tennessee yellow-eye grass, *Xyris tennesseensis* Kral. ¹Georgia Institute of Technology, GA, ²Atlanta Botanical Gardens, GA.
- P15 **Suzanne G. Strait, Joseph A. Hamden and Enock Okpoti.** West Virginia: where are the mammals? Marshall University, WV.
- P16 **Molly Atkinson and Carlos D. Camp.** The effect of potential nitrate pollution on survival of larval salamanders from the southeastern United States. Piedmont College, GA.
- P200 **Amy Vu and R. M. Fincher.** Investigation of arbuscular mycorrhizal fungi colonization in native tropical forest species in a reforestation project in Costa Rica. Samford University, AL.
- P201 **Brandie K. Stringer¹, Yong Wang¹ and Callie J. Schweitzer².** Forest management and songbird communities: breeding success and temporal trends. ¹Alabama A&M University, AL, ²USDA Forest Service Southern Research Station.
- P202 **Kathryn A. LeCroy¹ and David E. Carr².** Assessment of the reproductive fitness costs of plant defense investments and inbreeding in *Mimulus guttatus*. ¹Birmingham-Southern College, AL, ²University of Virginia, VA.
- P203 **Justin L. Harkey, Gary Walker and Mike Madritch.** Species-area relationships along a cliff face in Todd, NC. Appalachian State University, NC.
- P204 **John Enz.** Native (winter) pollinator, of a non-native ornamental plant, *Viburnum suspensum*, in urban north Florida. Jacksonville University, FL.

- P205 **Renee B. Welfare¹, Jeremy D. Proctor¹, Marcus E. Jones² and Jay F. Bolin¹.** The germination ecology of the federally endangered Michaux's sumac (*Rhus michauxii*, Anacardiaceae) including endozoochory. ¹Catawba College, NC, ²Norfolk Botanical Garden, VA.
- P206 **Rachel Burnett and Peter May.** Wading bird species richness and abundance relative to fluctuating water levels at a wetland restoration site. Stetson University, FL.
- P207 **Betsie B. Rothermel, Elizabeth H. Boughton and Joshua H. Daskin.** Initial responses of Florida endemic cutthroat grass and wet prairie vegetation to cattle exclusion and alternative fire regimes. Archbold Biological Station, FL.
- P208 **Judy Redden, Lisa Krueger and H. D. Wilkins.** Comparing a visual estimation method to the use of seed traps to determine an appropriate method for correlating mast production to red-headed woodpecker abundance in a bottomland hardwood forest. The University of Tennessee at Martin, TN.

Ecosystem or Landscape Ecology

- P17 **Cory J. Sperrn, K. Elizabeth Becker and C. Ross Hinkle.** Monitoring the effects of fire on the carbon cycle dynamics of a flatwoods ecosystem. University of Central Florida, FL.
- P18 **Jacob A. Kirkpatrick¹, Richard Pirkle¹, Joshua W. Campbell², Jeffrey Williams¹ and Lauren L. Harding².** The analysis of leaf breakdown rates within limestone caves in Alabama. ¹Shorter University, GA, ²High Point University, NC.
- P19 **Jason Harkey, Howard S. Neufeld and Michael Madritch.** Urban forest inventory and ecosystem services provided by trees on the campus of Appalachian State University. Appalachian State University, NC.
- P20 **Sigurdur Greipsson.** Allelopathic effect of juglone on kudzu (*Pueraria montana* (Lour.) Merr.). Kennesaw State University, GA.
- P21 **W. Davis, J. Holladay, M. Kral, L. Mumma, D. Saari, M. Vereen, B. Williams, Kate L. Sheehan and Ron J. Johnson.** Distribution of aquatic organisms in a restored pond system. Clemson University, SC.
- P22 **Eric R. Purdy, Mike Madritch and Gary L. Walker.** Using nutrient cycling as a method to refine the understanding of community. Appalachian State University, NC.

- P23 **Zachary Barthel¹, Caleb Sutton¹, Doshie Smith¹, Leon Jernigan¹ and Ryan Emanuel².** Assessment of secondary ecosystem succession in Hoke County, North Carolina. ¹University of North Carolina at Pembroke, NC, ²North Carolina State University, NC.
- P24 **Christopher Holland, Robin Van Meter and S. T. Purucker.** Spatial exposure analysis for threatened and endangered species from changing pesticide use patterns in southern Georgia. US Environmental Protection Agency, Office of Research and Development, GA.
- P25 **Eric Day¹, Clay Runck² and Michael Saum².** An inexpensive pyranometer for continuous measurement of solar irradiance. ¹Georgia Institute of Technology, GA, ²Georgia Gwinnett College, GA.
- P26 **Katherine L. Altman and Kevin S. Godwin.** A spatiotemporal assessment of Carolina Bay plant communities in South Carolina. Coastal Carolina University, SC.
- P27 **Nettie S. Livingston.** Genes that affect the production of prodigiosin, a red pigmented antibiotic, from *Serratia marcescens*. Claflin University, SC.
- P28 **Eric W. Kjellmark, Kelsey A. Dunn, Kiefer J. Fortunato, Jordan C. Hutar, Rachel A. Lichter, Ashley E. Schiffmacher, Katherine C. Thousand and Elizabeth R. Webb.** Effects of local geology on the fire regime and vegetation structure of Andros Island, Bahamas. Florida Southern College, FL.
- P29 **Carson J. Kadi, Logan Joiner, Elizabeth G. Dobbins and Kristin A. Bakkegard.** Rock vanes reduce streambank erosion in Shades Creek. Samford University, AL.
- P30 **Natalie R. Grosser and David Brown.** Kentucky wetland rapid assessment method is validated by avian species associations at forested ephemeral wetlands. Eastern Kentucky University, KY.
- P31 **Michael Denslow¹, Christopher A. Badurek¹, P. D. Philyaw¹ and Casey Reese².** Species distribution modeling of exotic plant species along the southern Appalachian Trail. ¹Appalachian State University, NC, ²National Park Service.
- P32 **Ann G. Huyler¹, Arthur Chappelka¹, Greg Somers¹ and Steven Prior².** Soil carbon relationships with home age, yard maintenance and tree biomass in residential yards in Auburn, AL. ¹Auburn University, AL, ²USDA-Soil Dynamics Laboratory.

Entomology/Invertebrate Biology

- P33 **Nicholas G. Stewart and Mark A. Schlueter.** Early bloom reduces mining bee (*Andrena* sp.) diversity and abundance in Georgia apple orchards. Georgia Gwinnett College, GA.

- P34 **Anthony P. Abbate, Eleanor Russell and Joshua W. Campbell.** Parasitic beechdrops (*Epifagus virginiana*): a possible ant pollinated plant. High Point University, NC.
- P35 **Ashley N. Galway¹, Susan C. Loeb² and Joshua W. Campbell¹.** Comparison of two different malaise traps in forested plots within the Green River Basin, North Carolina. ¹High Point University, NC, ²USDA Forest Service-Southern Research Station, GA.
- P36 **Amanda M. Starring, Gerald L. Smith and Joshua W. Campbell.** A pollination study of *Hymenocallis coronaria* in the Catawba River, SC. High Point University, NC.
- P37 **Brian D. Holt and T. W. Barger.** A survey of the tiger beetles (Coleoptera: Carabidae: Cicindelinae) of Alabama. Natural Heritage Section, State Lands Division, AL-DCNR1.
- P38 **Holland M. Hendrick, Devin L. Carter and C. B. Odom.** Application of RAPD techniques to the genetic analysis of the invasive bean plataspid, *Megacopta cribraria*. Wingate University, NC.
- P39 **Brian A. Little and Erika A. Scocco.** SEM. Wingate University, NC.
- P40 **Brian M. McHouell, Brian A. Little and Erika A. Scocco.** An insect hitchhiker: a plausible theory of migration of the bean plataspid, *Megacopta cribraria* (Fabricius), throughout the southeastern U.S. Wingate University, NC.
- P41 **Elizabeth L. Mihalcik¹ and Fred G. Thompson².** New species of Holospirid land snails of the genus *Coelostemma* from northern Mexico. ¹Contract Research Associate, ²Florida Museum of Natural History, University of Florida, FL.
- P42 **Stephanie L. Simmons¹, Erika A. Scocco¹, Hal Peeler², Tracie M. Jenkins² and Wayne A. Gardner².** Sex ratios of established and new territories of the invasive bean plataspid, *Megacopta cribraria* (Fabricius). ¹Wingate University, NC, ²University of Georgia, GA.
- P43 **Hassan A. Rana and Zach I. Felix.** Preliminary work towards developing a list of land snails for Georgia. Reinhardt University, GA.
- P44 **William H. Dees¹ and Matthew M. Yates².** Fish oil, undergraduates and gravid mosquito traps. ¹McNeese State University, LA, ²East Baton Rouge Mosquito Abatement and Rodent Control, LA.
- P45 **Victor R. Townsend¹, Michael K. Moore², Daniel N. Proud³ and Virginia A. Young².** Preliminary survey of the harvestmen (Arachnida: Opiliones) of Tobago, West Indies. ¹Virginia Wesleyan College, VA, ²Mercer University, GA, ³University of Louisiana at Lafayette, LA.

- P46 **Linda D. Canning and William H. Dees.** Mosquitoes and temperature: information for mosquito- borne disease models. McNeese State University, LA.

Evolutionary Biology

- P47 **John L. Simpson and Elizabeth V. Berkeley.** Unemployment stress on birth sex ratios in Virginia populations. James Madison University, VA.
- P48 **O. A. Ahmadpour¹, Cory Mullis¹, B. C. Jofre¹, Brian Keebler¹, Ashley O'Neill², William B. Cash³, LeeAnn Fishback⁴ and Thomas C. McElroy¹.** Genetic characterization of wood frogs (*Lithobates sylvaticus*) near a northern edge of their distribution. ¹Kennesaw State University, GA, ²Georgia State University, GA, ³Central Arkansas State University, AR, ⁴Churchill Northern Studies Centre, Canada.
- P49 **Fengjie Sun.** Rooting of the tree of life and the origins of diversified life based on phylogenetic analysis of RNA structures. Georgia Gwinnett College, GA.
- P50 **William A. Cagle.** Determining the phylogeny and taxonomy of *Pueraria*. East Carolina University, NC.
- P51 **Dipaloke Mukherjee and Walter J. Diehl.** Do genetic hitchhiking, codon usage bias, mutation saturation or relaxed constraint mimic natural selection in the Mycoplasmatales? Mississippi State University, MS.
- P52 **Mark Z. Hu and Elizabeth Berkeley.** Effect of immigration on Asian American birth sex ratio. James Madison University, VA.
- P53 **Leos G. Kral, Harriet N. Abbey and Summer C. Stanley.** Evolutionary genomics of darters: the time is now. University of West Georgia, GA.
- P54 **Theresa Griffith, Richard Pirkle and Christopher G. Brown.** The inbreeding dogma: potential inbreeding depression in domesticated dogs (*Canis domesticus*). Shorter University, GA.
- P55A **Courtney Jenista, Rachael Peck and Cynthia Bennington.** The sexual system of *Passiflora incarnata*: it's complicated. Stetson University, FL.
- P55B **Dehat M. Jalil.** The impact of Hurricane Katrina and racial and socioeconomic disparity on the human sex allocation response. James Madison University

Floristics

- P56 **Jennifer S. Stanley, Alexander Krings, Jon M. Stucky and Richard R. Braham.** Guide to the vascular flora of Picture Creek Diabase Barrens (Granville County, North Carolina). North Carolina State University, NC.

- P57 **Marvin E. Brown¹ and Eran S. Kilpatrick²**. Distribution and habitat characteristics of the green- fly orchid (*Epidendrum magnoliae*) in four coastal plain counties of South Carolina. ¹University of South Carolina Beaufort SC, ²University of South Carolina Salkehatchie, SC.
- P58 **Andrew Dotson and Robert Carter**. Species composition of a frequently burned mountain longleaf pine forest on the Talladega National Forest, Alabama. Jacksonville State University, AL.
- P59 **Ryerson P. Pamplin, Elena A. Mikhailova, Christopher J. Post, Patrick D. McMillan, Julia L. Sharp and Knight S. Cox**. Multitemporal floristic analysis of the shores of Lake Issaqueena, South Carolina. Clemson University, SC.
- P60 **Mark G. Winkler and Marjorie M. Holland**. Survey of the native and nonnative vascular plant species of three islands in Lake Winnepesaukee, New Hampshire. University of Mississippi, MS.
- P61 **Caitlin Elam¹ and Brenda L. Wichmann²**. Who goes to scrub in February? Who fights through dense oak thickets? Who would spot such a tiny little thing? – a status survey of *Monotropsis reynoldsiae* (A. Gray) A. Heller (Florida pigmy pipes, Ericaceae). ¹Cardno-Entrix, ²University of Georgia, GA.
- P62 **Alexander Krings, Spencer Goyette and Jon Stucky**. Going mobile: new mobile plant identification resources from the North Carolina State University Herbarium. North Carolina State University, NC.
- P63 **Grace D. Whatley, Sarah M. Noble and Steven D. Carey**. Bryophytes of South Alabama and Mississippi limestone outcrops. University of Mobile, AL.

Genetics, Cell & Molecular Biology

- P64 **Ploy Kurdmongkoltham and Mijitaba Hamissou**. Molecular investigations of pokeweed, *Phytolacca americana*, extracts and their effects on prokaryotic and eukaryotic cells. Jacksonville State University, AL.
- P65 **Samuel R. Wooten and Kellie N. Bingham**. Mechanism of t-cell receptor mediated chromatin decondensation in peripheral t lymphocytes. Furman University, SC.
- P66 **David Bourgeois, Benjamin Hannah, Amanda D. Williams and Beth Conway**. Prostate-specific membrane antigen activates integrin beta-1 in a laminin-dependent manner resulting in increased endothelial cell activation. Lipscomb University, TN.
- P67 **Laura M. Jackson**. Investigating primordial germ cell (pgc) development using germ cell-specific genes in fish. Southeastern LA University, LA.

- P68 **Sharon C. Davis¹, Pradyot Dash² and Paul G. Thomas²**. Effects of a mutation in the condensin ii complex on tcr repertoire diversity. ¹Furman University, SC, ²St. Jude Children's Research Hospital, TN.
- P69 **Alexis Valauri-Orton and Karen Bernd**. Water purification byproduct dichloroacetic acid induces stress in lung cells. Davidson College, NC.
- P70 **Samantha A. Maser and Jennifer R. Ward**. Genetic variation within and among populations of the invasive liana *Celastrus orbiculatus* (oriental bittersweet). UNC Asheville, NC.
- P71 **Jennifer M. Preslar and Eli V. Hestermann**. Effects of environmental toxicants and hormones on progesterone receptor expression in endometrial cells. Furman University, SC.
- P72 **Annie M. Kalinoski and Eli V. Hestermann**. DNA binding by aryl hydrocarbon receptor and its repressor. Furman University, SC.

Herpetology/Ichthyology

- P73 **Michael A. Anderson, Joshua R. Campbell, Alison N. Carey, Derec R. Dodge, Ryan A. Johnston, Emily R. Mattison, Ryan J. Seddon, Nathan L. Singer and Brian T. Miller**. Population survey of the streamside salamander, *Ambystoma barbouri*, in the inner and outer Nashville basins of middle Tennessee. Middle Tennessee State University, TN.
- P74 **Charles D. Battaglia and John L. Carr**. Survey study of the herpetofauna of upper Ouachita National Wildlife Refuge in northeastern Louisiana. University of Louisiana at Monroe, LA.
- P75 **Elizabeth B. Underwood¹, Sarah C. Bowers¹, Carole Wilkes², Jeffrey E. Lovich³, J W. Gibbons², Jackie C. Guzy¹ and Michael E. Dorcas¹**. Sexual dimorphism and feeding ecology of diamondback terrapins (*Malaclemys terrapin*). ¹Davidson College, NC, ²Savannah River Ecology Lab, SC, ³Southwest Biological Science Center.
- P76 **Chance D. Ruder, Christiana D. Akins, Leigh Anne Harden, Steve J. Price and Michael E. Dorcas**. Effects of environmental temperature variation on body temperatures and habitat use in free-ranging diamondback terrapins (*Malaclemys terrapin*). ¹Davidson College, NC, ²University of North Carolina at Wilmington, NC.
- P77 **Christian R. Oldham, Steven J. Price and Michael E. Dorcas**. A preliminary investigation into the ecology of juvenile painted turtles (*Chrysemys picta*) in a golf course pond. Davidson College, NC.

- P78 **Madeleine M. Kern¹, Jeffrey E. Lovich², Jackie C. Guzy¹, J. W. Gibbons³ and Michael E. Dorcas¹.** Potential morphological constraint on optimal egg size in the diamondback terrapin (*Malaclemys terrapin*). ¹Davidson College, NC, ²Southwest Biological Science Center, ³Savannah River Ecology Laboratory, SC.
- P79 **Jason H. Tant, Larry L. Cross and David A. Beamer.** A phylogeographic profile of the three-lined salamander, *Eurycea guttolineata*. Nash Community College, NC.
- P80 **LaShonda M. Caine, Elizabeth A. Lewis and David A. Beamer.** A phylogeographic profile of the salamander genus, *Pseudotriton*. Nash Community College, NC.
- P81 **Gerardo Tinajero, Jr.¹, Bobbie J. Legg¹, Thomas Bridgers² and David A. Beamer¹.** The phylogenetic relationships of two-lined salamander populations along the North Carolina and Virginia borders. ¹Nash Community College, NC, ²East Carolina University, NC.
- P82 **Bobbie J. Legg¹, LaShonda M. Caine¹, Sean P. Graham² and David A. Beamer¹.** The phylogeography of the seepage salamander (*Desmognathus aeneus*). ¹Nash Community College, NC, ²Penn State University, PA.
- P83 **Cassandra Henry, Vicky Kremer, Vince Cobb, Matt Klukowski and Frank Bailey.** The effect of blood parasite load on WBC counts in cottonmouths (*Agkistrodon piscivorus*). Middle Tennessee State University, TN.
- P84 **Victoria K. Kremer, Cassandra L. Henry, Matthew Klukowski, Vincent A. Cobb and Frank C. Bailey.** The effects of maternally transferred methylmercury on leukocyte differentials in northern water snake (*Nerodia sipedon*) neonates. Middle Tennessee State University, TN.
- P85 **Paul P. Thomas¹ and Eran S. Kilpatrick².** Evaluation of anuran species detection and site occupancy in the South Carolina coastal plain using the North American amphibian monitoring program. ¹University of South Carolina Aiken, SC, ²University of South Carolina Salkehatchie, SC.
- P86 **Patrick W. Cusaac.** Maternal transfer of methylmercury chloride in *Nerodia sipedon*. Middle Tennessee State University, TN.
- P87 **Jonathan A. Akin.** Abiotic and biotic effects on hatching rates and larval recruitment in spotted salamanders. Northwestern State University of Louisiana, LA.
- P88 **James W. Stewart.** Testing subspecies delimitation of Dekay's brownsnake, *Soreria dekayi*, using ecological niche modeling. Southeastern Louisiana University, LA.

- P89 **Raymond C. Wright, J. Patrick, W. Cusaac, Casssandra Henry and Frank C. Bailey.** The effects of maternaly transfered mehgcl on neonate performance in northern water snakes, *Nerodia sipedon*. Middle Tennessee State University, TN.
- P90 **Brian Williamson¹, Scott Rutherford², Loren Byrne² and Dale Leavitt².** Examining nest site distribution and abundance in a population of diamondback terrapin (*Malaclemys terrapin*). ¹Marshall University, WV, ²Roger Williams University, RI.
- P91 **Ivan T. Moberly and Paul V. Cupp, Jr.** The influence of tail autonomy on the avoidance of chemical alarm cues in northern zigzag salamanders, *Plethodon dorsalis*. Eastern Kentucky University, KY.

Physiological Ecology

- P92 **J. T. Pynne and R. M. Fincher.** Performance of 18 native tree species in forest restoration in abandoned cattle pastures in Costa Rica. Samford University, AL.
- P93 **Megan M. Seddon.** The trend in mean total cholesterol in Gordon County, Georgia over a twenty-five year period. Shorter University, GA.
- P94 **Elise M. Wygant and Lisa A. Donovan.** Investigation of wild *Helianthus* for drought resistance traits. University of Georgia, GA.
- P95 **Z. C. Berry and William K. Smith.** Examining the effects of cloud immersion on plant physiology and functional traits of *Abies fraseri* and *Picea rubens* seedlings in the southern Appalachian Mountains, USA Wake Forest University, NC.
- P96 **Sarah E. McGaughey, Chase M. Mason and Lisa A. Donovan.** The effects of ontogeny on leaf ecophysiological traits across the genus *Helianthus*. University of Georgia, GA.
- P97 **Benjamin A. Rausch, Benjamin P. Hagen, Chloe E. Hart, Derek L. Metz, Stephanie K. Hurst and Richard S. Phillips.** The effect of incubation temperature on fluctuating asymmetry in Mexican kingsnakes. Wittenberg University, OH.
- P98 **Claire Campbell¹ and Jeff Warren².** Sap flux density in peatland species: a study of vulnerability to climatic exposure. ¹Furman University, SC, ²Oak Ridge National Laboratory, TN.
- P99 **Florence C. Anoruo¹ and David Lincoln².** Nitrogen availability and the rate of nitrogen fixation by *Frankia*. ¹Claflin University, SC, ²University of South Carolina, SC.

- P100 **Alan W. Bowsher and Lisa A. Donovan.** Seedling root characteristics in relation to age, life history, and nutrient supply in *Helianthus*. University of Georgia, GA.
- P101 **Jennifer K. Johnson¹, Howard S. Neufeld¹, Robert Kohut² and Stan Bartkowiak IV¹.** Comparative effects of ozone on two varieties of cutleaf coneflower, *Rudbeckia laciniata* var. *digitata* and *Rudbeckia laciniata* var. *ampla*. ¹Appalachian State University, NC, ²Boyce Thompson Institute at Cornell University, NY.
- P102 **Cristin E. Walters and William K. Smith.** Lateral growth and vegetative reproduction in the high elevation spruce-fir forests of the Medicine Bow Mountains, Wyoming. Wake Forest University, NC.
- P103 **Amanda Kyle and Renee E. Carleton.** Minor ectoparasite infestation does not increase corticosterone release in nestling eastern bluebirds. Berry College, GA.
- P104 **Chelsea L. Cockburn, Eboni B. Brown, Michael Ferras, Katie N. Nowell and Justin W. Brown.** Role of brainstem serotonin in mediation of the thermoregulatory response to hypoxic stress. James Madison University, VA.
- P105 **Patsy N. Jackson.** The effects of ascorbic acid on *Drosophila* susceptibility to permethrin. Southern Adventist University, TN.
- P106 **Paul V. Cupp, Jr., Marissa Buschow, Lauren Goode, Jordan Kelsay, Susan King, Sagan Kleinrichert, Mathew Luttrell, Sabrina Schrader-McOwen and Ivan Moberly.** Thermal tolerance and acclimation in house crickets, *Acheta domesticus*. Eastern Kentucky University, KY.
- P107 **Joseph C. White and William K. Smith.** Water sources in riparian tree species of the southeastern United States. Wake Forest University, NC.
- P108 **Ksenia A. Fomina, Vladyslav I. Luzin, Olga N. Fastova, Aleksey A. Zakharov and Anton V. Yeryomin.** Adverse impact of toluene vapors on the rat cortico-adrenal system. Lugansk State Medical University, Ukraine.
- P109 **Ksenia A. Fomina, Vladyslav I. Luzin and Anton V. Yeryomin.** Negative effect of toluene on the thyrotropic hormone production of mammalia as an example of rat. Lugansk State Medical University, Ukraine.
- P110 **Vladyslav V. Luzin, Ksenia A. Fomina, Anton V. Yeryomin, Aleksey A. Zakharov and Olga N. Fastova.** Toxic effects of toluene on the thyroid gland of mammalia as an example of rat. Lugansk State Medical University, Ukraine.

- P111 **Alexey A. Zakharov, Svetlana A. Kashchenko, Oleg A. Churilin, Ksenia A. Fomina and Anton V. Yeryomin.** Ultramicroscopic structure of thymus after administration of imunofan. Lugansk State Medical University, Ukraine.

Plant Systematics

- P112 **Brenda L. Wichmann¹, Wendy B. Zomlefer¹, David E. Giannasi¹ and Richard Carter².** The GA-VSC herbaria collaborative: Phase I of a statewide consortium. ¹University of Georgia, GA, ²Valdosta State University, GA.
- P113 **Chelsea R. Davis and Gerald L. Smith.** Studies on *Hymenocallis* species of the Atlantic coastal plain. High Point University, NC.
- P114 **Curtis J. Hansen and Leslie R. Goertzen.** Evolutionary pattern and process in *Marshallia* (Asteraceae). Auburn University, AL.
- P115 **Alvin Diamond and Michael Woods.** *Rhododendron colemanii* (Ericaceae) in the southeastern United States. Troy University, AL.
- P116 **Edgar B. Lickey.** Continued studies in the *Arrhenia sphagnicola* (Berk.) redhead, *Lutzoni moncalvo* & *vilgalys* species complex in Newfoundland. Bridgewater College, VA.
- P117 **J. D. Huffstetler and Gerald L. Smith.** Phylogenetic relationships among *Hymenocallis* species classified in Traub's *H. caroliniana* alliance. High Point University, NC.

Population Ecology

- P118 **Matthew R. Tye and Pedro F. Quintana-Ascencio.** Modeling population growth and structure in the plant *Liatris ohlingerae*. University of Central Florida, FL.
- P119 **David B. Greene.** Genetic variation of a population of *Spiraea virginiana* (Virginia spiraea), a rare, riparian shrub along the Cheoah River in western North Carolina. UNC Asheville, NC.
- P120 **Cristina M. Caldwell¹, Michele Elmore², Julie Ballenger¹ and Kevin S. Burgess¹.** Introgressive hybridization in rare Georgia pitcher plants (*Sarracenia* spp.). ¹Columbus State University, GA, ²The Nature Conservancy.
- P121 **Tabitha Marchbanks, Caleb Matthews and Cindy Bennington.** Genetic variability for the defensive response of passionflower (*Passiflora incarnata*) to herbivory. Stetson University, FL.

- P122 **Thomas L. Fulghum¹, Lissa M. Leege and Jacob Thompson².** Measuring long-term effects of deer herbivory on the rare plant, *Trillium reliquum* using matrix models. ¹Georgia Southern University, GA, ²Georgia Department of Natural Resources.
- P123 **Taylor Ricks and H. D. Wilkins.** Nest site characteristics of great blue herons and great egrets in three rookeries at Reelfoot Lake, Tennessee. The University of Tennessee at Martin, TN.
- P124 **Heather Meadors, Sarah E. Redding and H. D. Wilkins.** Use of silent point counts and aural stimuli to detect barred owls in the area surrounding Reelfoot Lake, Tennessee. The University of Tennessee at Martin, TN.

Community and Population Ecology I, Room L
Session Chair: Claudia Jolls

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| 8:00 am | 1 | Stephen J. Murphy. Compositional shifts in the vegetation of an old-growth forest (Dysart Woods, Ohio) over a fifteen year period. Ohio University, OH. |
| 8:15 am | 2 | Amanda L. Ecker, Clinton S. Major and Kelly M. Major. Effects of historical land use and environmental variation on vegetation patterns in Weeks Bay, AL: implications for invasion. University of South Alabama, AL. |
| 8:30 am | 3 | David C. Merriman and Wade B. Worthen. Comparing biodiversity across taxonomic groups; carabid beetle communities and local tree size and diversity. Biology Department, Furman University, SC. |
| 8:45 am | 4 | Keith E. Gilland and Brian C. McCarthy. Performance of American chestnut (<i>Castanea dentata</i>) and its hybrids on reclaimed mine sites in unglaciated Ohio. Ohio University, OH. |
| 9:00 am | 5 | Dominic J. Graziani and Frank P. Day. Thresholds of change in decomposition rates along a dune/swale transect on Virginia's barrier islands. Old Dominion University, VA. |
| 9:15 am | 6 | Richard Pickens and Travis Perry. The puma (<i>Puma concolor</i>) as a potential top down agent of community structure and ecosystem function. Furman University, SC. |
| 9:30 am | 7 | Alex Viere and Travis Perry. Top down effects of puma (<i>Puma concolor</i>) on herbivore and mesocarnivore communities in New Mexico. Furman University, SC. |

- 9:45 am 8 **Jessica Carrier¹, Eric Sparks², Mark Woodrey³, Just Cebrian² and Anne Boettcher¹.** Variations in herbivore pressure across the northern Gulf of Mexico salt marshes. ¹Department of Biology, University of South Alabama, Mobile, AL, Dauphin Island Sea Lab and Department of Marine Sciences, University of South Alabama, ²Coastal Research and Extension Center, Mississippi State University and ³Grand Bay National Estuarine Research Center, MS.
- 10:00 am **BREAK**
- 10:15 am 9 **Matthew S. Swain, Derrick B. Poindexter and Ray S. Williams.** Effects of biological control of the invasive weed *Persicaria perfoliata* on vegetative community composition. Appalachian State University, NC.
- 10:30 am 10 **Clinton S. Major¹, Bradley R. Cooper¹, Dudgeon R. Steven², Joel A. Borden¹, Janet E. Kubler² and Kelly M. Major¹.** Influences of habitat variability and disturbance on aquatic plant community structure in the Mobile-Tensaw delta. ¹University of South Alabama, AL, ²California State University-Northridge, CA.
- 10:45 am 11 **Sarah Kooy and Travis Perry.** A description of seasonal variation in diel cycle activity patterns of New Mexican mammals. Furman University, SC.
- 11:00 am 12 **Christopher J. Paradie, Meagan Madden, Lucy Hedley, Romina Clemente and Jackie Kim.** Assessment of beetle and bug diversity in low input cattle farms of varying cattle density and surrounding land use. Davidson College, NC.
- 11:15 am 13 **Jesse M. Wood and Travis W. Perry.** Camera trap assessment of habitat correlates of mammal diversity in New Mexico. Furman University, SC.
- 11:30 am 14 **Lora L. Sigmon and David Vandermast.** Composition of the soil seedbank in a highly altered riparian forest in the central piedmont of North Carolina. Elon University, NC.
- 11:45 am 15 **John A. Barone¹ and JoVonn G. Hill².** Effect of habitat specialization and dispersal abilities on the metacommunity structure of plant, ants and grasshoppers in black belt prairies. ¹Columbus State University, ²Mississippi State University, MS.

Conservation Biology I, Room Q
Session Chair: Jennifer Boyd

- 8:00 am 16 **Michael E. Dorcas¹, John D. Willson², Robert N. Reed³, Ray W. Snow⁴, Michael R. Rochford⁵, Melissa A. Miller⁶, Walter E. Meshaka⁷, Paul T. Andreadis⁸, Frank J. Mazzotti⁵, Christina M. Romagosa⁶ and Kristen M. Hart³.** Severe mammal declines coincide with proliferation of invasive burmese pythons in Everglades National Park. ¹Davidson College, NC, ²Virginia Tech, VA, ³US Geological Survey, ⁴National Park Service, ⁵University of Florida, FL, ⁶Auburn University, AL, ⁷State Museum of Pennsylvania, PA, ⁸Denison University, OH.
- 8:15 am 17 **Daniel E. Wright and Robert Carter.** Population status of Bachman's sparrow in the Coleman lake region of the Talladega National Forest, Alabama. Jacksonville State University, AL.
- 8:30 am 18 **Jennifer M. Cruse-Sanders¹, Jason A. Smith², Ron Determann¹, Tova Spector³, Michael Wenzel¹, Hilary Hart¹ and Gerald S. Pullman⁴.** *In situ* and *ex situ* methods for conservation of the critically endangered conifer, *Torreya taxifolia* Arn. ¹Atlanta Botanical Garden, GA ²University of Florida, FL, ³Florida Park Service, FL, ⁴Georgia Institute of Technology, GA.
- 8:45 am 19 **M. Richards¹, R. Rossmanith², M. Wenzel², J. Cruse-Sanders¹, J. Determann², C. Denhof², R. Gagliardo² and S. Tallman².** Integrated conservation efforts for an endangered Florida orchid; *Tolumnia bahamensis*. ¹Atlanta Botanical Garden, GA, ²Jonathan Dickson State Park, FL.
- 9:00 am 20 **Gerald S. Pullman¹, Xiaoye Ma¹, Ronald O. Determann², Jennifer M. Cruse- Sanders² and Kylie Bucalo¹.** Somatic embryogenesis, plant regeneration and culture cryopreservation for *Torreya taxifolia*, a highly endangered coniferous species. ¹Georgia Institute of Technology, GA, ²Atlanta Botanical Gardens, GA.
- 9:15 am 21 **Katie L. Burke.** The effects of white-tailed deer on growth and mortality of two understory dominants, American chestnut (*Castanea dentata*) and striped maple (*Acer pensylvanicum*). Hampden-Sydney College, VA.

- 9:30 am 22 **Eva B. Gonzales and Patrick C. Sullins.** Taxonomic and conservation implications of species circumscription of *Liatris helleri*. Appalachian State University, NC.
- 9:45 am 23 **Andrea R. Benson, Joey Shaw and Jennifer Boyd.** Impacts of large mammal herbivory on *Scutellaria montana* Chapm. in the Tennessee army national guard volunteer training site, Catoosa County, Georgia. University of Tennessee at Chattanooga, TN.
- 10:00 am **BREAK**
- 10:15 am 24 **Morgan L. Schweigert and Troy Mutchler.** Seagrass (*Thalassia testudinum*) tissue analysis indicates significant herbivory-enrichment interaction. Kennesaw State University, GA.
- 10:30 am 25 **Elizabeth L. Stephens, Matthew R. Tye and Pedro F. Quintana-Ascencio.** Do habitat and microsite type affect recruitment limitation in native scrubland and scrub undergoing restoration? University of Central Florida, FL.
- 10:45 am 26 **Constance L. Rogers-Lowery.** Respiration and photosynthesis in larval and newly-settled coral exposed to different levels of carbon dioxide. Catawba College, NC.
- 11:00 am 27 **Bijay B. Niraula, Jonathan M. Miller, Evelyn G. Reategui-Zirena and Paul M. Stewart.** Life history study and morphological variations of primary burrowing crayfish *Cambarus lacunicambarus diogenes* and *C. tubericambarus*. Troy University, AL.
- 11:15 am 28 **Megan Pitman¹ and Travis Perry².** Comparison of photographic rate population estimates to mark-resight population estimates for puma (*Puma concolor*) across three study sites. ¹Clemson University, ²Furman University.
- 11:30 am 29 **Wesley M. Knapp and Richard H. Wiegand.** Orchid decline in the Catoclin Mountains, Frederick Co., Maryland as documented by a 25+ year dataset. Maryland Natural Heritage Program.
- 11:45 am 30 **Jennifer R. Mandel¹, Ethan F. Milton¹, Lisa A. Donovan¹, Steven J. Knapp² and John M. Burke¹.** Genetic diversity and population structure in the rare algodones sunflower (*Helianthus niveus* ssp. *tephrodes*) and comparison to related sunflowers. ¹University of Georgia, ²Monsanto Vegetable Seeds.

Entomology/Invertebrate Biology/Parasitology, Room K
Session Chair: William Dees

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| 8:00 am | 31 | <p>Erica R. Teasley¹, Alan P. Covich¹, Steve W. Golladay², Daniel G. Mead³ and Mark S. Blackmore⁴. Incidence of West Nile virus in mosquitoes and turtles in reference and agricultural wetlands in southwestern Georgia. ¹Odum School of Ecology, University of Georgia, Athens, GA, ²Joseph W. Jones Ecological Center, GA, ³Department of Population Health, University of Georgia, GA, ⁴Valdosta State University, GA.</p> |
| 8:15 am | 32 | <p>William H. Dees¹, Kaleigh A. Helo¹ and Jill Hightower². Caged mosquitoes: observations of unusual mosquito oviposition behavior. ¹McNeese State University, LA, ²Calcasieu Parish Mosquito and Rodent Control Department, LA.</p> |
| 8:30 am | 33 | <p>William H. Dees¹, Irvin J. Louque¹, Linda D. Canning¹, J. T. Guidry¹, Camille F. Abshire-Degrado¹ and Sandra A. Allan². Collecting mosquitoes in the field: light trap covers can make a difference. ¹McNeese State University, LA, ²USDA/ARS Center for Medical, Agricultural and Veterinary Entomology, LA.</p> |
| 8:45 am | 34 | <p>Daria Monaenkova, Matthew S. Lehnert, Taras Andrukh, Charles E. Beard, Binyamin Rubin, Alexander Tokarev, Wah-Keat Lee, Peter H. Adler and Konstantin G. Kornev. Dual functionality of the lepidopteran proboscis allows exploitation of vast nutritive sources. Clemson University, SC.</p> |
| 9:00 am | 35 | <p>Charles E. Beard, Matthew S. Lehnert, Peter H. Adler and Konstantin G. Kornev. Structure of the butterfly proboscis relates to feeding guilds. Clemson University, SC.</p> |
| 9:15 am | 36 | <p>Tom J. Fink. The role of the stridulatory organ hairs in stridulation in fire ants (Hymenoptera: <i>Solenopsis</i> spp.) as studied with scanning electron microscopy (SEM) and acoustics. East Carolina University, NC.</p> |
| 9:30 am | 37 | <p>Mark A. Schlueter and Nicholas G. Stewart. Where have all the bees gone? The native bees are still here! Georgia Gwinnett College, GA.</p> |

- 9:45 am 38 **Zachary J. Loughman¹, Kinsy L. Skalican¹ and Nate Taylor².** Determination of daily of movements and macrohabitat preference of the invasive crayfish *Orconectes virilis* through use of telemetry. ¹West Liberty University, WV, ²West Virginia University Fisheries Graduate Program, WV.
- 10:00 am **BREAK**
- 10:15 am 39 **Raquel A. Fagundo, Michael J. Lucero and Zachary J. Loughman.** Epigeal crayfish of West Virginia's lower Kanawha river system: conservation and natural history. West Liberty University, WV.
- 10:30 am 40 **Martha E. Perry¹, Stephen C. Landers¹ and Rachel N. Jones².** Larval settlement of two invertebrates at Dauphin Island Sea Lab, Alabama following the Deepwater Horizon oil spill. ¹Troy University, AL, ²Dauphin Island Sea Lab, AL.
- 10:45 am 41 **David A. Foltz II¹, Stuart A. Welsh² and Zachary J. Loughman³.** Baited lines, a nondestructive burrowing crayfish collecting technique. ¹Marshall University, WV, ²West Virginia University, WV, ³West Liberty University, WV.
- 11:00 am 42 **Zachary J. Loughman¹ and Stuart A. Welsh².** Burrowing crayfish occupancy rates at natural and disturbed sites along West Virginia's Ohio and Kanawha River floodplains. ¹West Liberty University, WV, ²USGS Cooperative Research Unit, WV.
- 11:15 am 43 **Hillary Doyle and Michael S. Bodri.** Effects of heat shock protein 90 (hsp90) inhibitors on regeneration and behavior in the planarian *Dugesia tigrina* (Platyhelminthes: Turbellaria). North Georgia College & State University, GA.
- 11:30 am 44 **Gabriel J. Langford, Brent Willobee and Luiz Isidoro.** Life cycle, host specificity, and seasonal occurrence of *Cyrtosomum penneri* (Nematoda: Atractidae) from lizards in Polk County, Florida. Florida Southern College, FL.
- 11:45 am 45 **Kate L. Sheehan and Ron J. Johnson.** Intestinal parasites of resident and migratory double-crested cormorants (*Phalacrocorax auritus*). Clemson University, SC.

Evolutionary Biology and Animal Behavior, Room R
Session Chair: Thomas Pauley

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| 8:00 am | 46 | Michael J. Cherry¹, L. M. Conner², Jesssica C. Rutledge², Lora L. Smith² and Robert J. Warren¹. White-tailed deer site selection in response to predator exclusion. ¹ University of Georgia, GA, ² Joseph W. Jones Ecological Research Center, GA. |
| 8:15 am | 47 | Scarlet L. Sellers and Travis W. Perry. Puma predation, medium to large mammal activity, and lunar phase. Furman University, SC. |
| 8:30 am | 48 | Elizabeth A. Miller¹, Bradley S. Cohen¹, David A. Osborn¹, George R. Gallagher², Robert J. Warren¹ and Karl V. Miller¹. An automated device for training deer for behavior-based experiments. ¹ University of Georgia, GA, ² Berry College, GA. |
| 8:45 am | 49 | Emily C. Alberto, Kelli M. Slunt and Abbie M. Tomba. Characterization of the alarm cues present in the hemolymph of the crayfish <i>Orconectes rusticus</i> . University of Mary Washington, VA. |
| 9:00 am | 50 | Richard G. Hodel¹ and Eva B. Gonzales². Phylogeography of sea oats (<i>Uniola paniculata</i> L., Poaceae), an ecologically important coastal dune grass in the southeastern United States. ¹ University of Florida, FL, ² Appalachian State University, NC. |
| 9:15 am | 51 | Bryan A. Strelow and Gregory J. Haenel. Exploring species boundaries: a genetic study of interactions between North American cricket frogs, <i>Acris crepitans</i> and <i>A. gryllus</i> . Elon University, NC. |
| 9:30 am | 52 | Kathlina Alford¹, Anna George², Dave Neely² and Joey Shaw³. Population status and conservation genetics of the flame chub, <i>Hemitremia flammea</i> . ¹ Tennessee Aquarium Conservation Institute & University of Tennessee at Chattanooga, TN, ² Tennessee Aquarium Conservation Institute, TN, ³ University of Tennessee at Chattanooga, TN. |
| 9:45 am | 53 | Danielle E. Peters and Thomas K. Pauley. Characterization of the <i>posterior hox</i> regions in amphibians and reptiles. Marshall University, WV. |
| 10:00 am | | BREAK |

- 10:15 am 54 **Sarah J. Pate¹, Jason A. Clement², Joe-Ann H. McCoy³, Stacey L. Lance⁴ and Katherine G. Mathews¹.** Development and characterization of microsatellite markers for *Actaea racemosa* (black cohosh, Ranunculaceae). ¹Department of Biology, Western Carolina University, ²Department of Chemistry and Physics, Western Carolina University, ³Bent Creek Germplasm Repository, The North Carolina Arboretum, ⁴Savannah River Ecology Laboratory, University of Georgia, GA.
- 10:30 am 55 **Laura E. Heflin¹, Victoria K. Gibbs², Mickie L. Powell¹, Robert Makowsky³, Addison L. Lawrence⁴, John M. Lawrence⁵ and Stephen A. Watts¹.** Effect of diet quality on nutrient allocation to the test and Aristotle's lantern in the sea urchin *Lytechinus variegatus*. ¹University of Alabama at Birmingham, AL, ²Villanova University, PA, ³U.S. Food and Drug Administration, ⁴Texas A & M University, TX, ⁵University of South Florida, FL.
- 10:45 am 56 **Rebecca Y. Shirk¹, J. L. Hamrick¹, Chaobin Zhang² and Sheng Qiang².** Inferring the invasion history of *Geranium carolinianum* using population genetics. ¹University of Georgia, GA, ²Nanjing Agricultural University, China.
- 11:00 am 57 **Ciara M. Lockstadt¹, Eva B. Gonzales¹ and John Young².** Reconstructing the phylogeography of American ginseng (*Panax quinquefolius*, Araliaceae). ¹Appalachian State University, NC, ²United States Geological Survey.
- 11:15 am 58 **Emily K. Copeland.** Terminal investment and the potential for dishonest signals in the ground cricket, *Allonemobius socius*. University of Central Florida, FL.
- 11:30 am 59 **Stephanie A. Pearl, John E. Bowers and John M. Burke.** The genetics of safflower domestication. University of Georgia, GA.
- 11:45 am 60 **Tom Diggs.** Tracing the evolution of glade-endemic prairie clovers (*Dalea* spp.). University of Alabama at Birmingham, AL.

Session Chair: Roland Roberts

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| 8:00 am | 61 | Robert M. Shepard, Clea F. Klagstad and Dwayne Estes. <i>Symphytotrichum pilosum</i> var. <i>pringlei</i> (Asteraceae) new to Tennessee from a unique riparian limestone glade community at Rock Island State Park. Austin Peay State University, TN. |
| 8:15 am | 62 | Amelia Harris, J. Hill Craddock and Joey Shaw. A floral survey and census of <i>Castanea dentata</i> (Marsh.) Borkh. (American chestnut, Fagaceae) at Bendabout Farm, Bradley County, Tennessee. University of Tennessee at Chattanooga, TN. |
| 8:30 am | 63 | Sunny A. Hart¹, Dwayne Estes², B. E. Wofford³, Dawn York², Emily Blyveis¹, Clea Klagstad², Rob Shephard², Courtney Gorman², Aaron J. Floden³ and Joey Shaw¹. Floristic inventory and vegetation mapping of the Ocoee River Gorge, Polk County, Tennessee. ¹ University of Tennessee at Chattanooga, TN, ² Austin Peay State University, TN, ³ University of Tennessee at Knoxville, TN. |
| 8:45 am | 64 | Clea F. Klagstad and Dwayne L. Estes. The vascular flora and vegetation classification of the Cheatham Wildlife Management Area, Cheatham County, Tennessee. Austin Peay State University, TN. |
| 9:00 am | 65 | Sarah A. Hoopes and David Vandermaast. The effect of geographic range and seasonality on concentration of podophyllotoxin in <i>Podophyllum peltatum</i> , Elon University, NC. |
| 9:15 am | 66 | Alan S. Weakley. Aliens: how do we define them, and which ones should we include in floras? University of North Carolina at Chapel Hill, NC. |
| 9:30 am | 67 | Wayne Barger and Brian Holt. Introducing "ALNHS": Alabama's newest herbarium. Natural Heritage Section, State Lands Division, ALDCNR, AL. |
| 9:45 am | 68 | Alan S. Weakley. Go find 'em: where are the undescribed vascular plants of the eastern United States? University of North Carolina at Chapel Hill, NC. |
| 10:00 am | | BREAK |

- 10:15 am 69 **Alan S. Weakley**. A progress report on the Flora of the Southeastern and Mid- Atlantic States. University of North Carolina at Chapel Hill, NC.
- 10:30 am 70 **Wayne Barger¹, Brian Holt¹, Dwayne Estes², Howard Horne³ and Daniel Spaulding⁴**. New and noteworthy records for the flora of Alabama. ¹Natural Heritage Section, State Lands Division, AL-DCNR, AL, ²Austin Peay State University, TN, ³Barry A Vittor & Associates, AL, ⁴Anniston Museum of Natural History, AL.
- 10:45 am 71 **Lisa Kelly and Elizabeth Workman**. The vascular flora of Sampson's Landing, Robeson County, North Carolina. University of North Carolina at Pembroke, NC.
- 11:00 am 72 **Alan S. Weakley**. Customized digital flora "apps": are we ready? University of North Carolina at Chapel Hill, NC.
- 11:15 am 73 **Richard Stalter and Patrick Lynch**. Secular flora of Delaware Water Gap National Recreation Area, New Jersey and Pennsylvania. St. Johns University, NY.
- 11:30 am 74 **Aaron Floden**. A floristically unique and new habitat for Tennessee. University of Tennessee, TN.

ASB Poster and Paper Sessions

Thursday pm, April 5th

Symposium I, Master's Hall *Next Generation Approaches to Phylogenetics and Phylogeography in Southeastern Systems*

Session Chair: Ashley Morris

- 1:30 pm 75 **Zack E. Murrell**. The future of plant systematics. Appalachian State University NC.
- 2:00 pm 76 **Emily L. Gillespie**. A molecular phylogenetics primer for 21st century taxonomy. Wake Forest University, NC.
- 2:30 pm 77 **Kevin S. Burgess**. Barcoding local floras: potential challenges and future applications. Columbus State University, GA.

- 3:00 pm 78 **Joey Shaw, Hayden Shafer and Peggy Kovach.** Chloroplast DNA sequence utility for inference of low-level or phylogeographic relationships among plants. University of Tennessee at Chattanooga, TN.
- 3:30 pm **BREAK**
- 4:00 pm 79 **Matthew Hansen and Roland P. Roberts.** A demonstration of software packages used for data analysis in population genetics: unraveling population genetic structure and patterns of gene flow in the exotic invasive *Ailanthus altissima* along the I-95 corridor. Towson University, MD.
- 4:30 pm 80 **Ashley B. Morris.** Plant phylogeography 2.0: innovative approaches for a stagnating field. Middle Tennessee State University, TN.

Community and Population Ecology II, Room L
Session Chair: Ray Williams

- 1:30 pm 81 **Jessica M. Howells and Ray S. Williams.** Effects of prior herbivory and plant genotype on aphid colonization of *Solidago altissima*. Appalachian State University, NC.
- 1:45 pm 82 **Megan A. Avakian and Ray S. Williams.** Effects of genotypic and environmental variation within *Solidago altissima* on associated arthropod communities. Appalachian State University, NC.
- 2:00 pm 83 **Jacqueline M. White and Robert K. Peet.** The interactive effects of growing season flood duration and timing on bottomland hardwood tree species regeneration patterns. UNC Chapel Hill, NC.
- 2:15 pm 84 **Alexander K. Anning and Brian C. McCarthy.** Long-term growth response of trees to prescribed fire and thinning treatments in the mixed oak forests of southeastern Ohio. Ohio University, OH.
- 2:30 pm 85 **Kyle A. Palmquist, Robert K. Peet and Alan S. Weakley.** Dramatic declines in small-scale species richness in longleaf pine (*Pinus palustris*) savannas. University of North Carolina at Chapel Hill, NC.
- 2:45 pm 86 **Casey L. Carpenter.** Phylogeography of short-tailed shrews (genus *Blarina*) of southeast Tennessee. University of Tennessee – Chattanooga, TN.

- 3:00 pm 87 **Jarvis E. Hudson.** Thirty-one years of change in a midwestern hardwood forest. University of North Carolina - Asheville, NC.
- 3:15 pm **BREAK**
- 3:30 pm 88 **Matthew L. Reid¹, Davis W. Pritchett² and Joydeep Bhattacharjee¹.** Twenty- seven years of bottomland hardwood forest succession. ¹University of Louisiana at Monroe, ²University of Arkansas at Fort Smith, AR.
- 3:45 pm 89 **Monika B. Hayleck.** Impact of beech bark disease on epiphyte diversity and cover in high elevation beech gaps in the Great Smoky Mountains National Park. Elon University, NC.
- 4:00 pm 90 **Lindsay D. Leverett and Claudia L. Jolls.** Defining cryptic seed heteromorphism in *Packera tomentosa* (Asteraceae) using seed mass characteristics and germination. East Carolina University, NC.
- 4:15 pm 91 **Eric South and William Ensign.** Life history of largescale stoneroller (*Camptostoma oligolepis*) in urban and rural streams. Kennesaw State University, GA.
- 4:30 pm 92 **Tabitha N. Williford, Lissa M. Leege and Cassandra M. Plank.** The effects of fire and dormancy on population dynamics of endangered *Trillium persistens*. Georgia Southern University, GA.

Ecosystem & Landscape Ecology, Room Y/Z

Session Chair: Danny Gustafson

- 1:30 pm 93 **Stephen Hutchinson, Will deGravelles and William H. Conner.** Suppressed baldcypress growth response to artificial canopy gap creation in a North Carolina, USA swamp. Baruch Institute of Coastal Ecology and Forest Science, SC.
- 1:45 pm 94 **Ariel Firebaugh¹, Jonathan Walter² and Kyle Haynes².** *Lymantria* disperse! Using forest fragmentation and host quality to describe male gypsy moth densities at the local and regional levels. ¹Roanoke College, VA, ²University of Virginia, VA.
- 2:00 pm 95 **Patrick T. Ma, David Vandermast and Ryan Kirk.** Land-use history and the composition and structure of Elon University forest, a successional hardwood forest in the North Carolina piedmont. Elon University, NC.

- 2:15 pm 96 **Kileigh D. Browning and David B. Vandermast.** An interaction between the European wild boar (*Sus scrofa*) and beech bark disease in the high elevation beech gaps of Great Smoky Mountains National Park. Elon University, NC.
- 2:30 pm 97 **Paul H. Scott and Richard E. Baird.** An ecological comparison of anamorphic Ascomycota taxa within the *Pestalotia* complex of the southeastern United States. Mississippi State University, MS.
- 2:45 pm 98 **Danny J. Gustafson¹, John Synovec¹, Dewitt Jones¹, Charles Major¹, David J. Gibson² and Sara G. Baer².** *Chamaecrista fasciculata*, *Silphium integrifolium*, and *Sorghastrum nutans* show divergence in genetic structure when grown in a background of wild collected versus cultivars of the dominant grasses. ¹The Citadel, SC, ²Southern Illinois University, IL.
- 3:00 pm 99 **Courtney B. Mandeville.** A comparison of total nitrogen and water quality recommendations for the Cache River basin. Guilford College, NC.
- 3:15 pm **BREAK**
- 3:30 pm 100 **Diane De Steven¹ and Joel M. Gramling².** Conservation effects of wetland restoration practices in the southeastern wetlands reserve program. ¹U.S. Forest Service Southern Research Station, ²The Citadel, SC.
- 3:45 pm 101 **Ruel Michelin¹, Cynthia Johnson², Wolfgang Leitner³, Lafayette Frederick⁴, Imad Shureiqi⁵, Joseph Whittaker² and Mary-Lou Gutierrez¹.** Effects of climate change on *Aspergillus* species and consequences for agriculture and human health: a meta-analysis. ¹Walden University, ²IUHS School of Medicine, ³Morgan State University, MD, ⁴NCI/NIH3 Tuskegee University, ⁵MD Anderson Cancer Clinic University of Texas, TX.
- 4:00 pm 102 **Jane L. Guentzel and Julie W. Murphy.** Mercury concentrations in surface water, sediments and water hyacinth (*Eichhornia crassipes*) from a South Carolina coastal plain river. Coastal Carolina University, SC.
- 4:15 pm 103 **Maynard H. Schaus¹, Wanda W. Morris¹ and Ken C. Mattes².** Nutrient uptake by mangroves adjacent to a wastewater treatment plant on Ambergris Caye, Belize. ¹Virginia Wesleyan College, ²Belize Marine TREC.

- 4:30 pm 104 **Jamie A. Duberstein¹, Ken W. Krauss² and William H. Conner¹.** Site salinity affects fertility and forest structure in coastal swamp forests. ¹Baruch Institute, Clemson University, SC, ²National Wetlands Research Center, U.S. Geological Survey.
- 4:45 pm 105 **Rachel H. Ruttley.** Spatial ecology of preimaginal black flies (Diptera: Simuliidae) in the *Simulium jenningsi* species group. University of South Alabama, AL.

Conservation Biology II, Room Q
Session Chair: Rebecca Cook

- 1:30 pm 106 **Jackie C. Guzy, Steven J. Price and Michael E. Dorcas.** An assessment of the spatial configuration of greenspace: factors influencing semi-aquatic turtle occupancy in a suburban landscape. Davidson College, NC.
- 1:45 pm 107 **April L. Conway, Sonia M. Hernandez and John P. Carroll.** Camera trapping the pygmy hippopotamus (*Choeropsis liberiensis*) on Tiwai Island, Sierra Leone. University of Georgia, GA.
- 2:00 pm 108 **Sam R. Watkins, Erin M. Coughlin and Martin L. Cipollini.** Trapping and monitoring ambrosia beetles for the implementation of integrated pest management in Georgia chestnut orchards. Berry College, GA.
- 2:15 pm 109 **Alicia M. Garcia.** Assessing the effect of restoration on phenological progression and reproductive success of the rare Georgia rockcress (*Arabis georgiana* Harper). Columbus State University, Ga.
- 2:30 pm 110 **Jennifer M. Torgerson and Laura E. DeWald.** Genetic variation in *Hydrastis canadensis* populations in western North Carolina. Western Carolina University, NC.
- 2:45 pm 111 **Jill E. Bourdon.** Location and simulated harvest/disturbance on the medicinal herb *Chamaelirium luteum* L. Western Carolina University, NC.
- 3:00 pm 112 **Rebecca A. Cook¹ and Patricia D. Parr².** Long term monitoring of a population of *Delphinium exaltatum* Ait.: observed trends and future plans. ¹University of Memphis Lambuth Campus, TN, ²Oak Ridge National Laboratory, TN.

3:15 pm

BREAK

3:30 pm

113

Jane L. Guentzel, Jennifer L. Aldershoff, Julie W. Murphy and Samuel H. DeMint. Mercury concentrations in loggerhead shrike (*Lanius ludovicianus*) feathers from South Carolina. Coastal Carolina University, SC.

3:45 pm

114

Anthoney W. Willsea and Timothy O. Menzel. The relationship between soil characteristics and presence or absence of *Echinacea laevigata* (smooth coneflower) along roadsides in the Tugaloo Basin. Piedmont College, GA.

4:00 pm

115

Claudia L. Jolls¹, Julie E. Marik¹, Kayri Havens², Pati Vitt², A. K. McEachern³ and Darcy Kind⁴. An adventive biocontrol weevil, *Larinus planus*, and other emerging threats to populations of the federally threatened pitcher's thistle, *Cirsium pitcheri*. ¹East Carolina University, NC, ²Chicago Botanic Garden, IL, ³US Geological Survey, ⁴Wisconsin Department of Natural Resources, WI.

Herpetology/Ichthyology I, Room R**Session Chair: Steve Price**

1:30 pm

116

Steven J. Price¹, Robert A. Browne² and Michael E. Dorcas¹. Resistance and resilience of a stream salamander to supra-seasonal drought. ¹Davidson College, NC, ²Wake Forest University, NC.

1:45 pm

117

Elizabeth E. Hieb, Thomas G. Jackson, David H. Nelson and Ashley B. Morris. A population genetic analysis of the Alabama red-bellied turtle (*Pseudemys alabamensis* Baur). University of South Alabama, AL.

2:00 pm

118

Madeleine M. Kern, Adriana A. Nassar, Jackie C. Guzy and Michael E. Dorcas. Oviposition site selection by spotted salamanders (*Ambystoma maculatum*) in an isolated wetland. Davidson College, NC.

2:15 pm

119

Stephanie D. Hunt¹, Jackie C. Guzy¹, Steven J. Price¹, Brian J. Halstead² and Evan A. Eskew³. Response of riparian reptile communities to anthropogenic habitat alteration. ¹Davidson College, NC, ²US Geological Survey, ³University of California, Davis, CA.

- 2:30 pm 120 **Jacob B. Campbell and Vincent A. Cobb.** Comparing the effects of hypoxia/hypercapnia on the metabolic rates of fossorial and terrestrial snakes. Middle Tennessee State University, TN.
- 2:45 pm 121 **David A. Beamer¹ and Trip Lamb².** River drainages, ecoregions and twisted tales of *Desmognathus* systematics. ¹Nash Community College, NC, ²East Carolina University, NC.
- 3:00 pm 122 **Danté B. Fenolio¹, Matthew L. Niemiller² and Ronald M. Bonett³.** A review of the obligate subterranean salamanders of North America with emphasis on new work with the Georgia blind salamander, *Haideotriton wallacei*. ¹Atlanta Botanical Garden, GA, ²Yale University, CT, ³University of Tulsa, OK.
- 3:15 pm **BREAK**
- 3:45 pm 124 **Rachel L. King¹, Lora L. Smith² and Alan P. Covich¹.** Spatial and diet analysis of freshwater aquatic turtles in coastal plain of Georgia. ¹University of Georgia, GA, ²Joseph W. Jones Ecological Research Center, GA.
- 4:00 pm 125 **Benjamin O. Koester and Thomas K. Pauley.** Hibernacula site selection in the eastern box turtle, *Terrapene c. carolina* (Linnaeus, 1758) in West Virginia. Marshall University, WV.
- 4:15 pm 126 **Whitney Kroschel and Tom Pauley.** Revisiting the ecological status of the cheat mountain salamander (*Plethodon nettingi*) after 32 years. Marshall University, WV.
- 4:30 pm 127 **Ryan Seddon and Matthew Klukowski.** The effects of acute stress on corticosterone, prostaglandin e2, and testosterone in male southeastern five-lined skinks (*Plestiodon inexpectatus*). Middle Tennessee State University, TN.
- 4:45 pm 128 **Derek A. Bozzell and Thomas K. Pauley.** The effect of auditory call playback on anuran detectability, catch probability and visual encounter survey efficiency. Marshall University, WV.

Scholarship of Teaching & Learning, Room K
Session Chair: Pearl Ramola Fernandes

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|---------|--------------|---|
| 1:30 pm | 129 | Kefyn M. Catley¹ and Laura R. Novick². Does studying natural selection provide students sufficient knowledge to understand macroevolution? Data from the classroom. ¹ Western Carolina University, NC, ² Vanderbilt University, TN. |
| 1:45 pm | 130 | Debby R. Hanmer. Maximizing study abroad experiences for college students in Costa Rica. University of North Carolina at Pembroke, NC. |
| 2:00 pm | 131 | Candace Timpfe and Alexandra M. Kurtz. Evolution from a campus wiki to wikipedia. ¹ Georgia Gwinnett College, GA. |
| 2:15 pm | 132 | Pearl R. Fernandes and Kajal B. Ghoshroy. Integrative learning in biology courses. University of South Carolina Sumter, SC. |
| 2:30 pm | 133 | Judy Awong-Taylor, Latanya Hammonds-Odie, Lee Kurtz, Michael Erwin and Lorina Boomhower. Old dogs, new tricks: modifying standard labs for teaching the nature of science through an inquiry-based approach. Georgia Gwinnett College, GA. |
| 2:45 pm | 134 | Chris J. Paradise, A. M. Campbell, Laurie J. Heyer, Pat J. Sellers and Mark J. Barsoum. Improving critical thinking in introductory college biology courses. Davidson College, NC. |
| 3:00 pm | 135 | W E. Grossman and Christine M. Fleet. Does confronting scientific misconception in an inquiry based general education course yield concept change? Emory & Henry College, TN. |
| 3:15 pm | BREAK | |
| 3:30 pm | 136 | Andrew N. Ash¹, Catherine E. Matthews², Ann B. Somers² and Terry M. Tomasek³. Herps – an informal science education curriculum to promote herpetological education, conservation and public engagement in underserved communities in North Carolina. ¹ UNC Pembroke, NC, ² UNC Greensboro, NC, ³ Elon University, NC. |
| 3:45 pm | 137 | Diana S. Ivankovic¹, Frank A. Norris¹, Cynthia C. Deaton² and Benjamin E. Deaton¹. Students' use of |

mobile learning devices to support science content understanding in an introductory biology course. ¹Anderson University, SC, ²Clemson University, SC.

- 4:00 pm 138 **Judy Awong-Taylor, Latanya Hammonds-Odie and Michael Erwin.** Enhancing biotechnology research skills in an introductory biology lab curriculum. Georgia Gwinnett College, GA.

ASB Poster and Paper Sessions Friday am, April 6th

ASB Poster Session II, Mahler Auditorium/Hill Atrium (Numbers 125 – 199) (Presenters with Posters 11 am to noon)

Animal Behavior

- P125 **Stephanie Rhodes, Emma Hayes and Jennifer S. Borgo.** Seasonal variations in diet of coyotes (*Canis latrans*) at Carolina Sandhills National Wildlife Refuge. Coker College, SC.
- P126 **Sabrina L. Shrader-McOwen and Gary Ritchison.** Use of auditory stimuli by Carolina chickadees (*Parus carolinensis*) to recognize and inform conspecifics about predators. Eastern Kentucky University, KY.
- P127 **E. N. Vanderhoff¹ and Travis W. Knowles².** Antiphonal calling and duetting in mammals: do Amazonian bamboo rats *Dactylopsilus dactylinus* do both? ¹Jacksonville University, AL, ²Francis Marion University, SC.
- P128 **Michael K. Moore¹, Danny VanValkenburgh¹ and Victor R. Townsend, Jr.².** Defense behaviors of tropical harvestmen. ¹Mercer University, GA, ²Virginia Wesleyan College, VA.
- P129 **Jennifer S. Garbina and Nancy L. Buschhaus.** Effect of natal bean species and bean condition on hatching success and female oviposition behavior in bean beetles, *Callosobruchus maculatus* (Coleoptera: Bruchidae). University of Tennessee at Martin, TN.
- P130 **Todd L. Scarlett.** Effects of hydroelectric generation on great blue heron (*Ardea herodias*) foraging and movements. University of South Carolina Lancaster, SC.
- P131 **Marissa A. Buschow and David R. Brown.** White-throated sparrow (*Zonotrichia albicollis*) aggressive response to intruders declines throughout winter. Eastern Kentucky University, KY.

Aquatic Biology

- P132 **Alyssa McNaughton¹, Erika Baldwin¹, Alexandria S. Jeffers², Peter VandenHurk³ and Dennis C. Haney¹.** The effects of legacy and current land use on stream biota in the piedmont region near Greenville, South Carolina. ¹Furman University, SC, ²SC Governor's School for Science and Mathematics, ³Clemson University, SC.
- P133 **Bradley Wells¹, Ashley Baldrige², David Lodge² and Timothy Kreps¹.** Utilization of a seasonal resource pulse: consumption of smallmouth bass eggs by the invasive rusty crayfish. ¹Bridgewater College, VA, ²University of Notre Dame, IN.
- P134 **Meredith W. Kronn, Foster K. Veazey, E. G. Dobbins and Dr. K A. Bakkegard.** The effects of rock vanes on sedimentation in Shades Creek, Birmingham, AL. Samford University, AL.
- P135 **Cody Mills and Kirsten Work.** Rapid population growth and impact on algal growth by the exotic snail, *Melanoides tuberculata*. Stetson University, FL.
- P136 **Katelynn L. Bell, Kelly A. White and Clay Runck.** Comparison of two methods for sampling zooplankton and notonectids in a storm water management pond. Georgia Gwinnett College, GA.
- P137 **Brian A. Clayton.** Effects on shallow groundwater in a wetland from tree removal. Joseph W. Jones Ecological Research Center, GA.
- P138 **Jeffrey J. Illinik.** Effects of tidal immersion and body mass on phosphorus cycling *Ofgeukensia demissa*. Virginia Wesleyan College, VA.
- P139 **John N. McCall and D. C. Chance.** Impacts of the BP oil spill on meiofaunal communities in an Alabama salt marsh. University of West Alabama, AL.

Developmental Biology

- P140 **Archana Reddy S. Addla.** Molecular characterization of root growth components in scarecrow regulated developmental pathway. Auburn University, AL.
- P142 **Kayla M. Bingham, Caroline H. Wallace and Victoria L. Turgeon.** 3-dimensional cell culture of motor neurons and Schwann cells. Furman University, SC.
- P143 **Simone M. Dixon, Candice M. Meuleners and Victoria L. Turgeon.** Activation of protease activated receptor-1 (PAR-1) decreases cytoskeletal organization in cultured oligodendrocytes. Furman University, SC.

- P144 **John A. Sullivan.** Developmental effects of glucocorticoid prednisone on zebrafish (*Danio rerio*) embryogenesis. Furman University, SC.
- P145 **Tara L. Brown and Nancy L. Buschhaus.** The effect of varying sea water condition and temperature on survivability of sea urchin, *Lytechinus pictus*, embryos. University of Tennessee at Martin, TN.

Entomology and Invertebrate Biology and Parasitology

- P146 **Anna E. Coursey, Ayana Smith, Anna E. Henshaw, Madeline M. Olson, Virginia A. Young and Michael K. Moore.** Epizoic cyanobacteria associated with a neotropical harvestman (Opiliones, Sclerosomatidae) from Tobago. Mercer University, GA.
- P147 **William H. Dees¹, J. T. Guidry¹, Kaleigh A. Helo¹, Irvin J. Louque¹, Shreedu Pradhan¹, Omar E. Christian¹, Cecilia Richmond¹ and Jill Hightower².** Effects of plant and animal extracts on mosquitoes. ¹McNeese State University, LA, ²Calcasieu Parish Mosquito and Rodent Control Department, LA.
- P148 **Jacqueline N. Webb.** Homology of modified terminal setae and evolution of Family Buthidae (Scorpiones). Marshall University, WV.
- P149 **Julie A. Tierney¹, Barbara K. Reynolds¹ and Albert E. Mayfield².** Impact of hemlock woolly adelgid and low doses of imidacloprid on radial growth of eastern hemlock. ¹University of North Carolina at Asheville, NC, ²USDA Forest Service, NC.
- P150 **William H. Dees¹, Christopher J. Kirkhoff¹, Alan M. Shudes¹, Taylor P. Wood¹, Jessica C. Choate¹, Irvin J. Louque¹, J. T. Guidry¹ and Josh Hightower².** Larval water mites parasitizing mosquitoes in southwest Louisiana. ¹McNeese State University, LA, ²Cameron Parish Mosquito Abatement, LA.
- P151 **Ashton B. Arnold and Sarah M. Noble.** A survey of gastropods along the Mobile Bay causeway, south of the Mobile-Tensaw Delta. University of Mobile, AL.
- P152 **Victor R. Townsend and Maynard H. Schaus.** Comparative study of the reproductive anatomy of harvestmen (Arachnida, Opiliones) from the Cayo District, Belize, with additional novel observations regarding their natural history. Virginia Wesleyan College, VA.
- P153 **Robert W. Van Devender and Amy S. Van Devender.** Land snails of North Carolina. Part 2. Small species with low spires. the Euconuliidae, Discidae, Gastrodontidae, Zonitidae, Pristolomatidae, Punctidae, Strobilopsidae, and Valloniidae of North Carolina. Appalachian State University, NC.

- P154 **Kinsey T. Skalican, Shannon M. Berardi and Zachary J. Loughman.** Life history of the crayfish *Cambarus chasmodactylus* from the central portion of the species range. West Liberty University, WV.
- P155 **Andrew Dotson, Chris Murdock, Robert Carter and Benjie Blair.** A method for detection of bacterial pathogens in ticks collected from Oak Mountain State Park, AL. Jacksonville State University, AL.
- P156 **Lauren Timmons and R. B. Cromer.** Association of white-tailed deer (*Odocoileus virginianus*) populations and deer ticks (*Ixodes scapularis*) in urban and rural settings in the Central Savannah River Area. Augusta State University, GA.
- P157 **Katelynn A. Monti and Abbie M. Tomba.** Identification of trematodes using molecular techniques. University of Mary Washington, VA.
- P158 **Lindsey Childress and Riccardo Fiorillo.** Trematode assemblage of aquatic snails in black Bayou Lake NWR in northeast Louisiana. University of Louisiana at Monroe, LA.

Genetics, Cell & Molecular Biology

- P159 **Kimberly S. Holley¹, William Birkhead¹, Kevin Burgess¹ and Greg Moyer².** Interspecific hybridization between a rare, endemic bass (*Micropterus cataractae*) and a more abundant, invasive bass (*M. punctulatus*). ¹Columbus State University, GA, ²U.S. FWS Warm Springs Fish Technology Center, GA.
- P160 **Katrina Morgan, Megan M. DeRocher and David M. Hollis.** Isolation of plasticity related gene 1 (*prg-1*) in the brain of the adult bullfrog (*Lithobates catesbeianus*). Furman University, SC.
- P161 **Ethan F. Milton, Jessica A. Barb, John M. Burke, Steven J. Knapp and Lisa A. Donovan.** QTL analyses of drought resistance traits in *Helianthus* under well watered and drought conditions. University of Georgia, GA.
- P162 **Parth Patel and Clem Bell.** Sequencing allelic series in coding and non-coding regions of the human genome. Mercer University, GA.
- P163 **Valarie A. Burnett.** An immunohistochemical survey of cr+, pv+, and som+ interneuronal subtypes and their distribution in rat perirhinal cortex. Newberry College, SC.
- P164 **Ryan Wauford and Irma Santoro.** Are combined synthetic food dyes mutagenic? Reinhardt University, GA.

- P165 **Andrew R. Morris¹, Joann A. Conner² and Peggy Ozias-Akins².** Efficient mapping of asgr-carrier chromosome transcripts in F1s using caps? ¹Abraham Baldwin Agricultural College, GA, ²University of Georgia, GA.
- P166 **Shawn Sparks and Roger Sauterer.** Factors for optimizing 2-dimensional polyacrilimide gel electrophoresis. Jacksonville State University, AL.
- P167 **Garrett P. Tanner.** Involvement of 5-lipoxygenase and estrogen in the production of 15-hete. Guilford College, NC.
- P168 **Yoedono Sovyanhadi, Gabriel Spencer and Bakari Thomas.** Vitamin C intake by prostate cancer cell line pc-3 as affected by glucose starvation and vitamin availability in the media. Oakwood University, AL.

Herpetology/Ichthyology

- P169 **Jonathan A. Akin.** Endurance physiology and tail autotomy in the ground skink *Scincella lateralis*. Northwestern State University of Louisiana, LA.
- P170 **Susan L. Caster and Betsie Rothermel.** First survey of gopher tortoises and their commensals in an isolated Florida scrub habitat surrounded by cattle pasture. Archbold Biological Station, FL.
- P171 **Leslie Ouy and Michael K. Moore.** Gradient adaptations in anuran larvae: an Akaike information approach. Mercer University, GA.
- P172 **Elliott J. Diggs¹, Yong Wang¹ and William B. Sutton².** Habitat association, use, and response to prescribed burning and thinning in pine-hardwood forests between two snake species in northwestern Alabama. ¹Alabama A&M University, AL, ²University of Tennessee Knoxville, TN.
- P173 **Padraic T. Conner¹, Yong Wang¹ and Callie J. Schweitzer².** Herpetofaunal and small mammal response to stored carbon regimes on the Cumberland Plateau. ¹Alabama A&M University, AL, ²USDA Forest Service.
- P174 **Megan A. Barbour and Carlos D. Camp.** Morphological differences in larvae of two cryptic species of dusky salamander (Genus *Desmognathus*). Piedmont College, GA.
- P175 **Zach I. Felix.** Morphological variation within the *Plethodon wehrlei* group: preliminary findings. Reinhardt University, GA.

- P176 **Joel A. Borden¹, Gabriel J. Langford², David H. Nelson¹ and Clinton S. Major¹.** Observed variability in herpetofauna of the Mobile-Tensaw Delta, Alabama. ¹University of South Alabama, AL, ²Florida Southern College, FL.
- P177 **Josh Hulse, Robert Carter and Mark Meade.** Fish assemblages in headwater streams of the upper Tallapoosa River System. Jacksonville State University, AL.

Microbiology

- P178 **Lynelle T. Pompey.** Identification of the genes needed for antibiotic production in a bacillus isolate. Claflin University, SC.
- P179 **Pearl R. Fernandes, Jeffrey Long, Michelle Forehand and Toby Shuler.** Taking science from the laboratory to the community. University of South Carolina Sumter, SC.
- P180 **Reid D. Brown¹, Marirosa Molina², Adelumola Oladeinde¹, Tommy Bohrmann², Christopher Fitzgerald¹, Greg Myrthil³ and Kelvin Wong².** Water quality response to changes in agricultural land use practices at headwater streams in Georgia. ¹SSA contractor to the USEPA, ²USEPA, ³University of Georgia, GA.
- P181 **Jessica A. Fuller.** Bacteria associated with agricultural industry waste products pre- and post-exposure to mercury. Claflin University, SC.
- P182 **Ezinne Okpan.** Isolation and identification of bacteria associated with highly characterized peats pre- and post- chromium (vi) exposure. Claflin University, SC.
- P183 **Meghan M. Gawne, Cursty Sexton, Jazmin Thrash and Dinene L. Crater.** Characterization of MECA in MRSA isolates from High Point University students. High Point University, NC.
- P184 **Alexandra Proctor, Sara Shelton, Tiffany Cathey, H. D. Wilkins and Linda K. Husmann.** Characterization of a novel *Clostridium* species isolated from the cloaca of the yellow-bellied sapsucker. The University of Tennessee at Martin, TN.
- P185 **Tara K. Grayson and Brian S. Burnes.** Commensal bacteria on the eyes of college student contact wearers. The University of West Alabama, AL.
- P186 **Robert D. Perry and Mark E. Christensen.** DNA transformation in an aquatic environment using *Acinetobacter calcoaceticus*. Georgetown College, KY.

- P187 **Brian Z. Hedges, Andrew J. Jajack, Patrick M. Tomko and Jay A. Yoder.** Description of preventive methods for controlling mold allergy and asthma associated with keeping Madagascar hissing cockroaches as pets and in educational settings. Wittenberg University, OH.
- P188 **Rachelle Falk and David R. Wessner.** Investigating the cytotoxic and antiviral properties of atriazolenucleoside analog. Davidson College, NC.
- P189 **Amelia Morgan, Zak Kronquist and Dinene L. Crater.** MRSA in the gym: do common cleaning supplies eliminate MRSA from standard work-out equipment at High Point University? High Point University, NC.
- P190 **Barbara L. Biebinger and Christi L. Magrath.** The impacts of wastewater treatment and antimicrobial agents on *Saccharomyces cerevisiae*, a comparative analysis. Troy University, AL.
- P191 **Yin Gu, Marirosa Molina, Tommy Bohrmann, Mike Cyterski, Tom Purucker, Gene Whelan.** Estimation of decay rates for fecal indicator bacteria and bacterial pathogens in agricultural field-applied manure. US Environmental Protection Agency, GA.
- P192 **Zackary H. McMullan and Lisa A. Blankinship.** The effects of spices on the growth of *B. megaterium*, *E. coli*, *P.aeruginosa*, and *S. aureus*. University of North Alabama, AL.

Scholarship of Teaching & Learning

- P193 **Nitya T. Rao, Steven Price, Jackie Guzy and Michael Dorcas.** The Davidson College herpetology lab's outreach program: using reptiles and amphibians to enhance science education. Davidson College, NC.
- P194 **Jacob S. Francis.** The successes and challenges of creating a cooperative multi-state inquiry-based environmental education curriculum: a case study from northern West Virginia and southwestern Pennsylvania. Oglebay Institute's Schrader Environmental Education Center, WV.
- P195 **Irma M. Santoro.** Using popular creative non-fiction literature as the main text to ignite interest, cultivate critical thinking skills and confront ethical and moral issues related to science in a biology classroom. Reinhardt University, GA.
- P196 **A. D. Panvini.** From botany class project to arboretum status. Belmont University, TN.
- P197 **Latanya Hammonds-Odie and Alessandra Barrera.** Journey into hela cells – an inquiry-based learning experience across two upper-level courses. Georgia Gwinnett College, GA.

- P198 **Nick Ragsdale.** Teaching biology to a fifth grader or problem-based learning in a general education biology class. Belmont University, TN.
- P199 **Merry C. Clark and Lisa Blumke.** Development of an inquiry based laboratory module for use in undergraduate biology courses. Georgia Highlands College, GA.

Symposium II, Master's Hall
A New Vision for Undergraduate Biology Education

Session Chair: Nicole Welch

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| 8:00 am | 139 | Louis J. Gross. The vision of <i>Vision and Change</i> . University of Tennessee, Knoxville, TN. |
| 8:30 am | 140 | Paula P. Lemons¹ and Luanna B. Prevost². What type of multiple-choice questions help students practice the process of science? A study of student cognition during multiple-choice testing. ¹ The University of Georgia, GA, ² Michigan State University, MI. |
| 9:00 am | 141 | Peggy Brickman. Media-savvy scientific literacy: developing critical evaluation skills by investigating scientific claims. University of Georgia, GA. |
| 9:30 am | 142 | J. S. Oliver, Georgia W. Hodges, James N. Moore and Tom P. Robertson. Teaching cellular processes to high school students using modules based on 3-d computer animations. University of Georgia, GA. |
| 10:00 am | | BREAK |
| 10:30 am | 143 | Kathrin F. Stanger-Hall. Interdisciplinary thinking in biology. University of Georgia, GA. |
| 11:00 am | 144 | Nicole T. Welch¹, Nancy J. Pelaez², Charlene D'Avanzo³ and Charles W. Anderson⁴. Helping faculty embrace the vision of <i>Vision and Change</i> . ¹ Mississippi University for Women, MS, ² Purdue University, IN, ³ Hampshire College, MA, ⁴ Michigan State University, MI. |

Freshwater Ecology/Aquatic Biology, Room L
Session Chair: Bill Ensign

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| 8:00 am | 145 | Daniel V. Rhiner. Using cyclomorphosis to assess predation of zooplankton in wetlands. Kennesaw State University, GA. |
| 8:15 am | 146 | Keri M. Goodman¹ and Mark E. Hay². Activated chemical defenses suppress herbivory on freshwater red algae. ¹ University of Georgia, GA, ² Georgia Institute of Technology, GA. |
| 8:30 am | 147 | James B. Deemy and Edward R. Crawford. Vegetative recruitment patterns in a recently restored mixed tidal regime wetland: seed bank to standing cover. Virginia Commonwealth University, VA. |
| 8:45 am | 148 | Jason H. O'Connor and Betsie B. Rothermel. Factors influencing the distribution and abundance of exotic fish in modified wetlands in peninsular Florida. Archbold Biological Station, FL. |
| 9:00 am | 149 | William Ensign. Fish species richness and stream network topology. Kennesaw State University, GA. |
| 9:15 am | 150 | Derek J. Turner¹, Jeff Steinmetz¹, Ann Stoeckmann¹ and John Ludlam². The relationship between water quality, phytoplankton and zooplankton in a South Carolina lake. ¹ Francis Marion University, SC, ² Fitchburg State University, MA. |
| 9:30 am | 151 | Robert L. Hopkins II¹ and Jordan C. Roush². Species-specific responses of stream fish to surface coal mining in eastern Kentucky. ¹ University of Rio Grande, OH, ² USDA, Natural Resources Conservation Services. |
| 9:45 am | 152 | Dwayne Estes¹, Chris A. Fleming², Angelina Fowler¹ and Nathan Parker¹. Distribution, abundance, and habitat preference of monoecious <i>Hydrilla verticillata</i> in Tennessee's Emory River Watershed. ¹ Austin Peay State University, TN, ² BDY Environmental Inc., TN. |
| 10:00 am | | BREAK |
| 10:15 am | 153 | Gina Botello¹, Stephen Golladay¹, Alan Covich², Darold Batzer³ and Mark Blackmore⁴. Larval mosquito assemblages in agricultural wetlands of southwestern Georgia: investigating the influence of surrounding land use. ¹ Odum School of Ecology, University of Georgia, |

GA, ² J.W. Jones Ecological Research Center, GA,
³Department of Entomology, University of Georgia, GA,
⁴Valdosta State University, GA.

- 10:30 am 154 **Brian C. Reeder.** Primary productivity limitations in low-alkalinity eastern Kentucky reservoirs. Morehead State University, KY.
- 10:45 am 155 **Jessica A. Bloom.** Comparing the effects of American bison. Marshall University, WV.
- 11:00 am 156 **Evelyn G. Reategui-Zirena¹, Jonathan M. Miller¹ and Paul M. Stewart¹.** Growth rates and age estimations of *Pleurobema strodeanum* and *Fusconaia burkei*, species proposed to be listed under the Endangered Species Act. Troy University, AL.
- 11:15 am 157 **Chelsea Daniel, John McCreadie and Jason Coym.** Black flies: a proposed entry point for mercury into the food web. University of South Alabama, AL.
- 11:30 am 158 **Samantha Hardwick, Leland Stoddard, Kelly Bickle, Reed Jacobs, Evan Meadows, Scott Miller¹, Colleen Milstead, William Shipes, Rachael Wheeler and John Hains.** Ecological studies of *Bellamya japonica* (Japanese mystery snail) a new invasive snail in Lake Hartwell, SC (Savannah River Basin). Clemson University, SC.
- 11:45 am 159 **Robert U. Fischer¹ and Steve S. Warrner².** Evaluating the Illinois stream valley segment model as an effective management tool. ¹University of Alabama at Birmingham, AL, ²Wisconsin Department of Natural Resources, WI.

Herpetology/Ichthyology II, Room K

Session Chair: John Carr

- 9:00 am 160 **Carlos D. Camp.** North Georgia: a potential salamander hotspot. Piedmont College, GA.
- 9:15 am 161 **Lisa D. Brown and John L. Carr.** Aquatic herpetofaunal communities in a regenerating bottomland hardwood forest at upper Ouachita National Wildlife Refuge, Louisiana. University of Louisiana at Monroe, LA.
- 9:30 am 162 **Kevin R. Messenger and Yong Wang.** Herpetofauna of Shennongjia National Nature Reserve and effects of elevation on diversity, Hubei Province, China. Alabama A & M University, AL.

- Physiological and Population Ecology, Room Q**
Session Chair: Howie Neufeld

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|---------|-----|--|
| 8:00 am | 168 | Jingjing Yin, Hazel Y. Wetzstein and Robert O. Teskey. Root and shoot hydraulic conductivity and growth of one-year-old loblolly pine seedlings under two levels of atmospheric CO ₂ and fertility. University of Georgia, GA. |
| 8:15 am | 169 | Bradley S. Cohen¹, David A. Osborn¹, George R. Gallagher², Karl V. Miller¹ and Robert J. Warren¹. Visual sensitivity of white-tailed deer as determined by behavioral assay. ¹ University of Georgia, GA, ² Berry College, GA. |
| 8:30 am | 170 | Adam B. Lyon, J. H. Craddock and Jennifer Boyd. Using leaf-level gas-exchange characteristics to |

investigate the shade tolerance of *Castanea dentate* and *C. mollis*. University of Tennessee at Chattanooga, TN.

- 8:45 am 171 **Alyssa L. Teat, Eva Gonzales, Michael D. Madritch and Howard S. Neufeld.** Influence of biochar on soil properties and physiological responses of corn, *Zea mays*. Appalachian State University, NC.
- 9:00 am 172 **Maraih C. Clements and Jeff Kovatch.** Responses of the freshwater mussel *Pyganodon grandis* to alterations in temperature and photoperiod. Marshall University, WV.
- 9:15 am 173 **Robin J. Van Meter and Christopher M. Swan.** Tolerance to road salt deicers in chronically exposed urban pond communities. University of Maryland, Baltimore County, MD.
- 9:30 am 174 **Alexandra J. Weiser, Kaitlin Everidge and Timothy M. Griffith.** Will northern range shifts impact photosynthetic capacity? A study of longer daylengths on leaf architecture in a common weedy annual. Georgetown College, KY.
- 9:45 am 175 **Groves B. Dixon and Laura E. DeWald.** Clonal dynamics and decline of trembling aspen *Populus tremuloides* (Michx.) in the Kaibab National Forest, Arizona. Western Carolina University, NC.
- 10:00 am **BREAK**
- 10:15 am 176 **Thomas F. Bohrmann¹ and Mary C. Christman².** Robust abundance estimation in animal abundance surveys with imperfect detection. ¹US Environmental Protection Agency, ²University of Florida, FL.
- 10:30 am 177 **Mary M. Williams¹, Christina M. Perez¹, James A. Ruttinger¹, Derek S. Colbert¹, Michael J. Chamberlain¹, L. M. Conner² and Robert J. Warren¹.** The effects of growing-season prescribed fire on eastern wild turkey nesting ecology and poult survival in southwestern Georgia. ¹University of Georgia, GA, ²Joseph W. Jones Ecological Research Center, GA.
- 10:45 am 178 **David R. Brown and Gail Miller.** Increased frequency of year-round residency as an explanation for winter range shifts in a partial migrant songbird. Eastern Kentucky University, KY.

- 11:00 am 179 **Gary D. Grossman and Robert E. Ratajczak Jr.** Population regulation in several southern Appalachian mountain stream fishes. University of Georgia, GA.

Floristics and Plant Systematics II, Room R
Session Chair: Emily Gillespie

- 9:00 am 180 **Dwayne Estes.** Kral's beardtongue, a narrowly-endemic new species of penstemon (Plantaginaceae) from the Cumberland Plateau of Alabama and Tennessee. Austin Peay State University, TN.
- 9:15 am 181 **Jesse W. Jamison and Jimmy K. Triplett.** Introgressive hybridization and the evolution of North American cane bamboos as revealed by nuclear and chloroplast DNA. Jacksonville State University, AL.
- 9:30 am 182 **John M. Herr, Jr.** The hydro-microtome: a new instrument for sectioning fresh or paraffin embedded plant tissue. University of South Carolina, SC.
- 9:45 am 183 **Emily L. Gillespie and Kathleen A. Kron.** Phylogenetic analysis reveals reticulate evolution in the arctic/alpine genus *Cassiope* (Ericaceae). Wake Forest University, NC.
- 10:15 am 184 **Tina Davis¹, Melanie DeVore¹ and Kathleen Pigg².** Deciphering the *Prunus* fossil leaf record: delimiting leaf types from the Eocene of Washington State. ¹Georgia College & State University, GA, ²Arizona State University, AZ.
- 10:30 am 185 **Tanja M. Schuster.** Recircumscription of *Polygonum* L. to include *Polygonella* Michx. East Carolina University, NC.
- 10:45 am 186 **Jason R. Comer, Wendy B. Zomlefer, Alexander Matte Santos and James H. Leebens-Mack.** A study of the genetic diversity in Georgia and Florida populations of *Veratrum woodii* (Liliales: Melanthiaceae). University of Georgia, GA.
- 11:00 am 187 **Caitlin D. Ishibashi, Tyler R. Kartzinell and Dorset W. Trapnell.** Chloroplast DNA sequencing reveals deep phylogeographic split among populations of the lady of the night orchid, *Brassavola nodosa*, in northwestern Costa Rica. University of Georgia, GA.

**ASB Poster and Paper Sessions
Friday pm, April 6th**

**Symposium III, Master's Hall
*Lakes as Sentinels of Landscape Change and
Biodiversity in the Southeast***

Session Chair: Alan Covich

4:20 pm **DISCUSSION** – Moderated by **Oscar Flite**

**Genetics, Cell and Molecular Biology, Room Q
Session Chair: Jennifer Davis**

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|---------|--------------|---|
| 1:30 pm | 195 | Bryan Ayres, Brian Ingram, Chris Murdock, Robert Carter and Benjie Blair. A technique for the detection of <i>Borrelia burgdorferi</i> in various Alabama Counties via canine blood samples. Jacksonville State University, AL. |
| 1:45 pm | 196 | Amanda C. Smith and Mijitaba Hamissou. Comparative analysis of antioxidants and insulin-potentiating factors (IPF) in bitter gourd (<i>Momordica charantia</i>) and zucchini (<i>Cucurbita pepo</i>). Jacksonville State University, AL. |
| 2:00 pm | 197 | Diana S. Ivankovic. Obesity study case: correlation between incidence of breast cancer and BMI in women in Anderson County. Anderson University, SC. |
| 2:15 pm | 198 | Chris R. Gissendanner. A novel transmembrane extracellular leucine-rich repeat protein regulates larval development and somatic gonadogenesis in <i>Caenorhabditis elegans</i> . University of Louisiana at Monroe, LA. |
| 2:30 pm | BREAK | |
| 2:45 pm | 199 | Eric Craig, Koti Hanes and Miriam Segura-Totten. Investigating the role of barrier-to-autointegration factor (BAF) in nuclear disassembly. North Georgia College & State University, GA. |
| 3:00 pm | 200 | Kathryn M. Sinclair. Phenotypic and molecular characterization of <i>Drosophila melanogaster</i> rhoa mutants. James Madison University, VA. |

- 3:15 pm 201 **Erika Balogh, Soumitra Ghoshroy, Mihaly Czako and Laszlo Marton.** Ultrastructural aspects of salt tolerance in *Arundo donax* with transmission electron microscopy. University of South Carolina, SC.
- 3:30 pm 202 **Indrani Dey and Christi L. Magrath.** Autonomous replicating sequences of *Saccharomyces cerevisiae*: methods to assess transcription termination activity. Troy University, AL.

Microbiology, Room Y/Z
Session Chair: Henry Spratt

- 1:30 pm 203 **Tesfaye Belay.** Stress alters the levels of key immune parameters in response to genital chlamydial infection. Bluefield State College, WV.
- 1:45 pm 204 **Beck Frydenborg, Keri Goodman, Nicholas Moore, Farida Ahmadi, Tamara Misewicz, Renee Perro and Erin Lipp.** Monitoring levels of fecal indicator bacteria and salmonella upstream and downstream of a constructed wetland. University of Georgia, GA.
- 2:00 pm 205 **Ryan Brown, Katherine Doster and Henry Spratt.** Assessment of algae species exposed to coal ash leachate for toxicity of select toxic chemicals. University of Tennessee at Chattanooga, TN.
- 2:15 pm 206 **Annette M. Golonka, Bettie Obi Johnson, Jonathan Freeman and Daniel W. Hinson.** Determination of volatile compounds produced by yeasts inhabiting the nectar of *Silene caroliniana* (Caryophyllaceae). University of South Carolina Lancaster, SC.
- 2:30 pm 207 **Ashley Newsome and Lori McGrew.** Developing a model for immunological testing in *Salmonella typhimurium*-infected *Danio rerio* treated using a traditional antibiotic and homeopathic remedy. Belmont University, TN.
- 2:45 pm 208 **Brian S. Burnes.** Identifying sources of pathogen contamination in the Fish River. University of West Alabama, AL.
- 3:00 pm 209 **David Wilson, Ryan Brown and Henry Spratt.** Resistance to triclosan in Tennessee River and Chattanooga Creek aquatic microbial communities. University of Tennessee at Chattanooga, TN.

- 3:15 pm 210 **Henry Spratt, David Levine and Larry Tillman.** Physical therapy clinic therapeutic ultrasound equipment as a source for bacterial contamination. University of Tennessee at Chattanooga, TN.

Floristics and Plant Systematics III, Room R
Session Chair: John Nelson

- 1:30 pm 211 **Bruce A. Sorrie.** Taxonomy and distribution of *Viburnum* section *Odontotinus* (Aoxaceae). University of North Carolina Herbarium, NC.
- 1:45 pm 212 **Raymond O. Flagg and Gerald L. Smith.** The distinctive characteristics of two probable new species of sessile Mexican *Zephyranthes* (Amaryllidaceae). ¹Carolina Biological Supply Company, NC, ²High Point University, NC.
- 2:00 pm 213 **Andrew S. Methven¹ and Andrew N. Miller².** *Clavariadelphus*: one genus or two. ¹Eastern Illinois University, IL, ²University of Illinois, IL.
- 2:15 pm 214 **C. T. Witsell.** An ecological and floristic inventory of shale barrens in the Ouachita Mountains of Arkansas, USA. Arkansas Natural Heritage Commission, AR.
- 2:30 pm 215 **Brinton E. Domangue and Conley K. McMullen.** Floristic survey of the vascular plants of Shenandoah County, Virginia. ¹James Madison University, VA.
- 2:45 pm 216 **Herrick H. Brown¹ and John B. Nelson².** The resurgence of the Devonian landscape: whisk ferns (*Psilotum nudum*) in urban environments. ¹SC Department of Natural Resources, ²University of South Carolina, SC.
- 3:00 pm 217 **Robert W. Thornhill, Alexander Krings, David L. Lindbo and Jon M. Stucky.** The vascular flora and soils of the wet pine savannas of Shaken Creek Preserve (Pender County, North Carolina). North Carolina State University, NC.
- 3:15 pm **BREAK**
- 3:30 pm 218 **Ronald L. Jones.** Woody plant survey of the Playa Delfin Rainforest Reserve and Research Station, southern Costa Rica. Eastern Kentucky University, KY.

- 3:45 pm 219 **Sarah M. Noble, Steven D. Carey and Grace D. Whatley.** A bryofloristic survey of limestone outcrops of the lower Gulf Coastal Plain of South Alabama and Mississippi. University of Mobile, AL.
- 4:00 pm 220 **Peter Schafran¹, Hal Wiggins² and Lytton Musselman¹.** The true identity of Tuckahoe. ¹Old Dominion University, Norfolk, VA, ²U.S. Army Corps of Engineers, VA.

Scholarship of Teaching & Learning II, Room F/G
Session Chair: Brian Odom

- 1:30 pm 221 **John V. Aliff.** "Cleaning up" human anatomy and physiology case studies with soap notes. Georgia Perimeter College, GA.
- 1:45 pm 222 **Elizabeth G. Dobbins and Kristin A. Bakkegard.** How to conduct a one-semester, field-based, senior capstone course in three easy steps. Samford University, AL.
- 2:00 pm 223 **Virginia A. Young and Michael K. Moore.** Integration of international service learning into the upper level biology curriculum. Mercer University, GA.
- 2:15 pm 224 **Christopher G. Brown.** Macroevolution made easy: a hands-on phylogenetics lab. Shorter University, GA.
- 2:30 pm 225 **Rita A. Hagevik.** Preservice elementary teachers' understandings of sustainable development. University of North Carolina at Pembroke, NC.
- 2:45 pm 226 **Cassandra L. Quave.** Setting standards for ethnobiological curricula. Emory University, GA.
- 3:00 pm 227 **A. D. Panvini.** The role of student lab prep workers – a key form of co-curricular science education. Belmont University, TN.
- 3:30 pm 228 **Paula C. Jackson, Meg C. Murray and Jennifer K. Frisch.** Wikied biology: a model for student-centered, inquiry-driven instruction using WEB 2.0 technologies. Kennesaw State University, GA.
- 3:45 pm 229 **Roger Sauterer.** History of life courses: a method for promoting integrative biological understanding. Jacksonville State University, AL.
- 4:00 pm 230 **Devin L. Carter, Holland M. Hendrick, Stephanie L. Simmons and C. B. Odom.** Out with the old, in with the new: converting undergraduate genetics labs from ethidium bromide to SYBR safe. Wingate University, NC.

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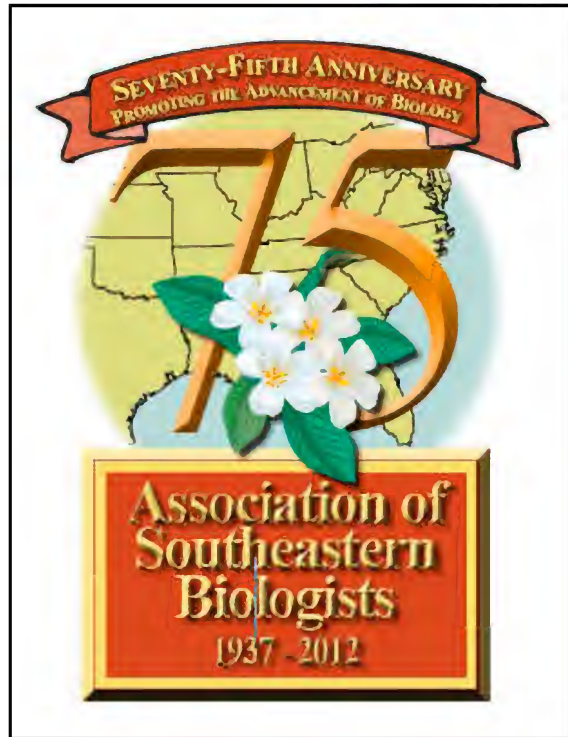
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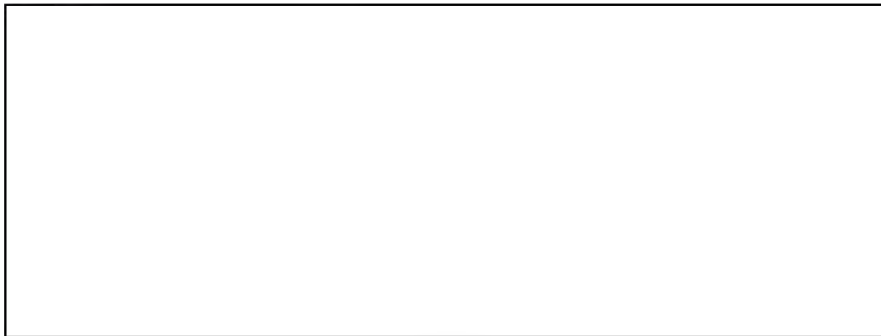
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BOOK REVIEWS

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Spotila, J. R. 2011. ***Saving Sea Turtles***. The Johns Hopkins University Press. Baltimore, MD. 240 pp. \$24.95.

James Spotila is a reputable sea turtle conservation biologist, a strong contributor to educating the public and a professional who is continually successful at drawing support for sea turtle conservation. In *Saving Sea Turtles*, Spotila aims to provide exposure to many real-world challenges faced by sea turtle biologists charged with juggling aspects of biology, politics, sociology, economics and natural resource management. The author employs case studies, his personal experiences, and experiences of his colleagues to illustrate conservation pressures on global turtle populations. Spotila professionally balances the presentation of a truly dire conservation situation with humor that allows the reader to laugh out loud and enjoy themselves. His approach circumvents the development of a gloomy tone. Overall, the author establishes a framework for a positive path forward. Spotila successfully uses visual aids with photographs to further meet his goals of creating a sense of overwhelming urgency and empowerment.

The author's presentation style is engaging and delivers an accurate portrayal of what realities biologists encounter in the field of sea turtle conservation. Sea turtles are widely considered charismatic species and represent a source of mystery and intrigue for the public and biologists alike. This perception generates an insatiable amount of support that is often misguided and the true nature of the field of study can subsequently be overly romanticized. While conservation of these animals is glorified, the true work that most do not see can be abrasive, physically exhausting and dangerous, particularly for field biologists conducting night patrols and tagging projects on remote beaches. These circumstances can be maneuvered with basic precautions and should not alter the course of a determined young practitioner; yet, it is important for wide-eyed and bushy-tailed young scientists to be aware of these challenges and risks when selecting career paths. Further, it is critical that the public is aware of the true hurdles faced by conservationists if we are to generate the informed support needed by practitioners.

Spotila's organization presents a thorough review of the global pressures on sea turtle populations while providing a historical perspective (biological and political), which serves as an important context for marine turtles' present-day status. There are several published books on sea turtle conservation, including staples such as Archie Carr's books and a coffee table book by Spotila.

However, this book is a novel contribution in terms of the targeted audience, inspirational tone, and the up-to-date portrayal of the current status of and threats to sea turtle populations.

The educational aspect of the book also applies to southeastern North America where the pressures are both quite similar and different as those experienced by nesting turtle populations in other geographic regions. As global migratory species, many issues are paralleled among countries and locations as the conservation pressures in one country affect the same turtles that occupy another country's territory either during a different phase of their life cycle or based on spatial habits that vary seasonally. However, while North America is largely relieved of some of the pressures such as widespread poaching, sea turtle populations can be challenged more extensively by issues such as accelerated rates of habitat loss, regular human traffic on beaches, and supplemental feeding of predators (e.g., raccoons). Spotila points out these challenges that apply to the North American region, an important note as many of the targeted readers are under the impression that our nesting populations in the United States are adequately protected due to the Endangered Species Act.

The true novelty of this book is in the breadth of the audience it caters to. The book reaches out to anyone interested in sea turtles, whether they have a peripheral curiosity or a primary passion. Spotila speaks to the enthusiast, the non-biologist, the politician, the natural resource manager, existing and aspiring sea turtle biologists, marine specialists and conservation ecologists. Among professionals, he presents issues that are applicable to the political and social complexity of wide-ranging organisms. Further, *Saving Sea Turtles* is motivational for the general public as Spotila provides global-level recommendations that anyone can apply in their personal lives. This inclusion provides an empowering template that guides everyone to make a difference on a personal level. Spotila has contributed a motivational and enjoyable read that grips your curiosity and engages your heart while making you laugh. He has produced a solution-driven synthesis for a complex path forward on what is needed to save sea turtles.

KIMBERLY M. ANDREWS. *Research Coordinator, The Georgia Sea Turtle Center, 214 Stable Road, Jekyll Island, Georgia 31527.*

Dorcas, M. and W. Gibbons. 2011. Frogs – The Animal Answer Guide. The Johns Hopkins University Press. Baltimore, MD. 160 pp. \$24.95.

The title of the book provides an accurate indication of the goals and objectives set forth by the authors. After a close inspection of the question-style format of the contents, the title makes sense. Although the authors write a great deal about toads, the exclusion of this group of anurans from the title is explained on page 2 (What is the difference between frogs and toads). It is evident that the authors' objectives are to provide individuals of various levels of knowledge with a variety of information about frogs and toads. A number of frog and toad species native to the United States are mentioned, but a worldwide approach is also used with features of species found in many other countries being described.

The text thoroughly addresses the stated goals and objectives. The content of this book is varied from general descriptions and introductory frog biology to more technical aspects of anurans. The authors were very successful in communicating their findings from technical articles in a way that could be understood by a layperson. The chapter divisions are logical and the questions therein are relevant. With that said, there are content items related to scientific names, photographs, and question location that could be addressed.

Latin names are introduced early (page 2) and used throughout. It may be useful for some readers if the authors provided a small summary table of general taxonomy (domain → species). This could be inserted in the first few pages using a common frog species as an example. It would clarify the relationship and difference between a taxonomic order (Anura) and the other ranks that are used throughout the text (family, genus, and species).

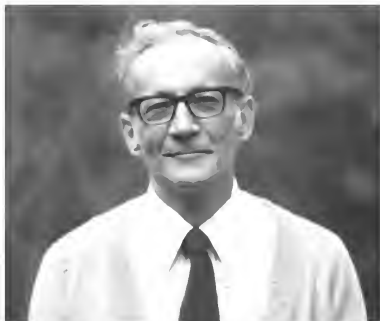
Both color and black and white photographs are used throughout the text. Book costs may be a consideration, but this book would really look better if all of the photographs were color. Color photographs may also have higher appeal for the target audience. The two color plate series are nice to look through, but they seem to be located at random in the book. The first appears in Chapter 5 (Frog Ecology) and the second is in Chapter 9 (Frog Problems). Also, it is difficult to determine how the species selected for the color plates are related to Chapter 5 and Chapter 9. A reader may expect to see photographs related to frog ecology or frog diseases.

Three photos were blurry or difficult to visualize (long-tailed salamander on page 11, Kihansi spray toad on page 61 and Cascades frog on page 53). The caption for the photograph on page 98 would be better represented with a picture of the large paratoid gland of the Colorado River toad rather than showing someone licking a toad. The answer to the question, "Can a person get high from licking or smoking a toad?" on page 97 provides sufficient detail regarding toad toxicity to humans. The question, "Why should people care about frogs?" seems more appropriate for Chapter 1 (Introducing Frogs) than Chapter 5 (Frog Problems).

This book makes a solid contribution to the field of amphibian biology and conservation. The book is not a completely novel publication, but it does seem to be very comprehensive compared to some of the existing books on frogs in general. The book will definitely expand the reader's knowledge of anurans regardless of their level of expertise. It would be most useful to beginning herpetologists, citizen scientists, and members of the general public interested in frogs. There is a degree of technicality present throughout the text that is perfectly suited to this type of audience.

ERAN S. KILPATRICK, *University of South Carolina Salkehatchie, 807 Hampton Street, Walterboro, South Carolina 29488.*

OBITUARIES

**Henry “Hal” R. De Selm
1926-2011**

The outdoors represented the classroom and the laboratory where he excelled. Whether he was sitting in that cluttered looking office/lab at Tenth Street, Hesler or later in his home office, he also maintained his signature of papers and phanerograms piled everywhere with copious notes often hidden beneath maps (both hand drawn and printed and all marked up with notes for sites to look at, sites that were looked at, etc, etc.) piled on handcrafted tables of plywood and cinder blocks. Dr. De Selm was consistent and

single purposed in his vision to write the summary of Tennessee Vegetation. His data storage was “terabytes” of 3x5 cards, hundreds of kilograms of copied papers, and an impeccable organic storage media, his brain. Those of us who worked with him perhaps understood him best as a “Yoda” of data and information about Tennessee vegetation, botany and natural landscapes.

While he was actively engaged with students at UT, he was in an element that we think he enjoyed most. Sometimes intimidating, but always expecting and wanting the best from and for them, he was rumored to “weigh” each succeeding thesis or dissertation and if one did not exceed the previous in weight then more work needed to be done. He definitely expected his students to be aware of all literature related to their topic and that meant going back in time as far as one could find published descriptions, accounts, etc. So, if your references didn’t capture a couple hundred years or so of information, then you were selling the literature review short. Hard to imagine what he would do if he saw references in a dissertation or thesis that were cited from the Internet! His penchant for including references was evidenced in his incessant collection of both gray and professional literature in a personal library that, for his students, exceeded what the University library could ever hope to accomplish.

Dr. De Selm served UT for 33 years in the Botany Department and Ecology Program. His students occupy positions in government agencies (state and federal), Universities, high schools, private conservation organizations, and many more. In all, he guided 11 PhDs and 30 MS students during his career. He came to UT from Middle Tennessee State University to work with Royal Shanks as a research associate in 1956. In 1962 he was appointed to the UT faculty upon Shanks’ death. Dr. De Selm was a charter member of the UT Ecology Program which started in 1968. Many of his students were part of that program which was one of the most successful in the country during the rise of environmental activities in the sixties and through the 70s and 80s. He was a member of many biological societies including the Ecological Society of America, the Tennessee Academy of Science, and the Association of Southeastern Biologists.

He started his career in science after WWII (in which he served as a Marine) with degrees from Ohio State University (MS 1950 and PhD 1953). His early

research was in ecophysiology (MS on canopy CO₂ in Neotoma Woods at Ohio State) and autecology of Andropogons (PhD under John Wolfe), he also worked on ecosystem studies during the International Biological Program (particularly at White Oak Lake Bed in Oak Ridge, Tennessee), but the bulk of his career was focused on the vegetation of Tennessee's barrens and other natural systems. His passing on July 12, 2011 leaves a void in the professional study of natural vegetation, particularly in Tennessee. Hal will be remembered for his service to UTK, his students, and most of all, the science of natural vegetation.

By three of his students:

*William Martin, Professor Emeritus
Department of Biological Sciences
Eastern Kentucky University
Richmond, KY 40475*

*Paul A. Schmalzer
Dynamac Corporation
Kennedy Space Center, FL 32899*

*C. Ross Hinkle, Chair
Department of Biology
University of Central Florida
Orlando, FL 32816*

**Steve C. Dial
1937-2012**

**Pfeiffer University Remembers Dr. Steve C. Dial '59
Professor Emeritus of Biology**

Pfeiffer University mourns the death on Feb. 9, 2012, of Pfeiffer University alumnus and former longtime faculty member Steve C. Dial '59. A professor emeritus of biology, Dr. Dial earned his master's and doctoral degrees from the University of South Carolina and returned to Pfeiffer as a faculty member in 1963. Over the next 40 years, he served the university as biology professor and department and division chair, receiving the Exemplary Teacher Award in 1996 from the Methodist Church, Division of Higher Education, as well as his field as a respected ecologist and botanist, publishing dozens of articles in scholarly journals on those subjects.

In 2008, in honor of Dr. Dial's tenure and the legacy that he left the university upon his



2003 retirement, the Harris Greenhouse was renovated and renamed the Dial Greenhouse. That effort and the accompanying fundraising campaign were led by Dr. Dial's son, Chris Dial '86.

"The imprint that Dr. Dial made on his students, his colleagues and the entire university will remain an important part of Pfeiffer for a long time," said Michael C. Miller, president. "His legacy is one of excellence, setting a high bar of achievement for current students and faculty."

Dr. Dial, who was born in Salisbury, N.C., on Aug. 7, 1937, is survived by his wife Carolyn. Longtime residents of Misenheimer, they have six children, all of whom graduated from Pfeiffer University. They are Michelle Dial '84 Pawel (Steven) of Oak Ridge, Tenn.; Chris '86 (Andrea) of Cary, N.C.; Sonya Dial '87 Sienerth (Karl '85) of Burlington, N.C.; Tara Dial '90 Mullinix (Nathan) of Oakland Township, Mich.; and Torin '91 of Nassau, Bahamas. Their son, Steve H. '84, died in 1996. Dr. Dial was preceded in death by his sister, Mari Lee Dial Weaver '67.

Dr. Dial's civic and professional affiliations included the Misenheimer Lions Club; Stanly County Country Club, for which he served as director 1976-82; North Carolina Academy of Science; South Carolina Academy of Science; Association of Southeastern Biologists; National Science Institute (as a participant in Geology and Ecology of the Rocky Mountains); and Society of the Sigma Xi.

A memorial service will take place on Sun., Feb. 12, 2 p.m., at Henry Pfeiffer Chapel, Pfeiffer University, 48380 Hwy. 52N, Misenheimer. A reception will follow in the Harris Science Building.

From Pfeiffer University, Misenheimer, NC, and sent by Carolyn Dial.

James S. Fralish 1938 – 2011

Journal Editor's note: An obituary for James S. Fralish describing his activities as a citizen of Carbondale, IL was published in Vol. 59, No. 1, January, 2012 issue of Southeastern Biology. The following additional obituary by three colleagues describes Dr. Fralish's professional accomplishments as a forest ecologist.

James S. Fralish, retired from the Department of Forestry at Southern Illinois University in 1996 but still working, passed away on August 30, 2011 from brain cancer at the age of 72. Born in Bern, Wisconsin in 1938, Jim received his PhD in 1969 from the University of Wisconsin with Orie Loucks, where he studied the ecology of aspen forest. Previously he had earned both his B.S. and M.S. degrees from Michigan State University, in Forestry and Land Economics, respectively.

After moving to southern Illinois, Jim focused on the community classification and dynamics of deciduous forests, elucidating the soil and site characteristics driving change. His work revealed vegetation shifts that had occurred in the Shawnee Hills over the past 200 years and predicted the succession of oak-hickory to mesophytic species. Later he became intrigued by pockets of savannas, barrens and rock outcrop communities—an interest that led to a book

he co-edited with his long-time friends. He was a primary organizer of the First Central Hardwoods Conference at SIU-Carbondale in 1979. The conference has been held at various locations every other year since that first meeting. In 2010, at the 17th Central Hardwood Conference at the University of Kentucky—Lexington, the steering committee presented him with an award for his efforts in establishing the conference and his long-time commitment to its success.

Jim served in numerous other leadership roles, including two terms as Associate Editor of Vegetation Science for *The American Midland Naturalist* (1989-1992; 2004-2006) and a stint as the Book Review Editor for the *Journal of Forestry* (1986-1990). He also contributed greatly to the Association of Southeastern Biologists (President in 1996-7) and regularly traveled with students and colleagues to its annual meetings, always stopping for a field trip on the way. In 2006, as a member of the Southeastern Chapter of the Ecological Society of America, Jim initiated the Elsie Quarterman-Katherine Kever Award for the best poster presentation.

After retirement, Jim maintained an active research program and continued to serve on graduate student committees and as the major professor for M.S. and Ph.D. students. His last student finished a few weeks before he died. Shortly before he passed away, Jim checked with colleagues on the status of joint research projects and the availability of data from the Plant Ecology Laboratory (PEL) at Wisconsin. He leaves behind data from a large number of permanent plots in southern Illinois and western Kentucky.

While conducting field work for his dissertation in northern Wisconsin, Jim stayed at Kemp Station, a facility owned by the University of Wisconsin. Until this year, he had worked at the Station with his students every summer since 1970. Tom Steele, superintendent at the station, commented that Jim relished the opportunity to introduce students to forest ecosystems and he did so in an impassioned manner. Jim and his wife, Kathy, donated generously to the construction of the Dorothy and Stanton Mead Residence Hall at Kemp Station, and the Fralish Family Research Library and Lounge is named in their honor. Part of Jim's legacy is the large number of scientists, students, and natural resource professionals who have benefitted from their generosity.

Following the tradition of Wisconsin ecologists, such as John T. Curtis, Grant Cottam, and Orie Loucks, Jim was active in the preservation of natural areas and served on the Illinois Nature Preserves Commission. He was a founding member of the local Chapter of the Audubon Society and was involved in the effort to prevent Lusk Creek Canyon from becoming a reservoir. The canyon contains one of the finest free-flowing streams in Illinois and is a hotspot in southern Illinois for plant diversity. Jim was an activist ecologist in his community, attending open meetings and accepting positions on panel debates regarding the management of natural areas. He challenged with vigor the Forest Service's practice of cutting through creeks and the local Sierra Club chapter's "anti-everything" campaign that included banning prescribed burns as a restoration tool. He carefully explained with data that doing nothing was actually doing something. He wrote opinion articles for the newspaper and lectured on current topics in his classes. His applied training and focus, and his enthusiasm, resulted in an eloquent expert on sustainable forest management.

Jim's activism did not end with science and conservation. He served on the School Board and founded the youth soccer program in Carbondale. Jim was awarded the prestigious Lindell W. Sturgis Memorial Public Service Award from

Southern Illinois University in 1996 and the Carbondale High School Foundation Hall of Service Award in 2010. He also served as the Commissioner of the Carbondale Park District from 2006-2010.

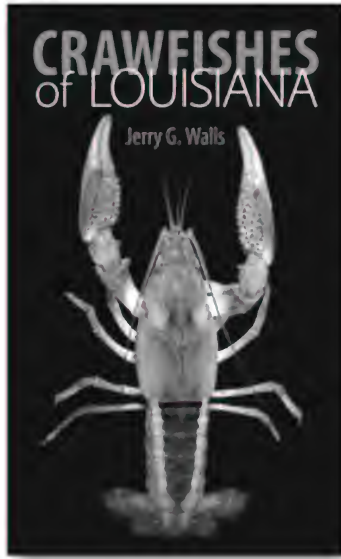
Jim was something of a father figure to his students and younger colleagues, encouraging yet challenging, and patient in his explanations. He edited with a red pen and thus many joked of their work bleeding from his criticism. He supervised 36 graduate students and countless undergraduates during his career, providing hours of his time and energy as he transformed nature enthusiasts into scholars. Jim never stopped working with students in the field. He took pleasure in developing research projects with students and seeing them through to completion. We believe part of this attitude and effort came from the way he interpreted data. He scrutinized outliers, trying to determine a reason for their difference, and he believed that an interpretation of the data required a thorough understanding of the sampling methods and sample sites—all often ignored by the statistics but imbedded in the 'noise.'

Jim is survived by his wife of 47 years, Kathy; two children, Christopher Julian-Fralish (and wife Stacey) and Nathaliwyn "Tally" Fralish Robbins; and four grandchildren. His many students and colleagues will miss a wonderful mentor, supportive friend, and provocative scientist.

Roger Anderson
School of Biological Sciences
Illinois State University
Normal, IL 61790

Charles M. Ruffner
Department of Forestry
Southern Illinois University-Carbondale
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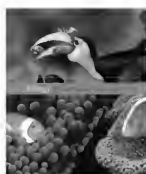
More information about SAFC may be obtained from their web site at <http://www.safc.org>, and by e-mail at safc@safc.org. The mailing address is Southern Appalachian Forest Coalition, 46 Haywood Street, Suite 323, Asheville, North Carolina 28801-2838. The telephone number is (828) 252-9223. ☞



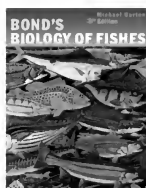
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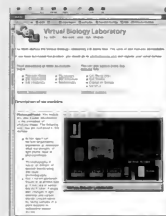


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